THE

ENCYCLOPÆDIA

OF

GEOGRAPHY:

COMPRISING A

COMPLETE DESCRIPTION OF THE EARTH,

PHYSICAL, STATISTICAL, CIVIL, AND POLITICAL;

EXHIBITING ITS RELATION TO THE HEAVENLY BODIES,
ITS PHYSICAL STRUCTURE,
THE NATURAL HISTORY OF EACH COUNTRY,
AND THE INDUSTRY, COMMERCE, POLITICAL INSTITUTIONS,
AND CIVIL AND SOCIAL STATE
OF
ALL NATIONS.

BY HUGH MURRAY, F.R.S.E.

ASSISTED IN

ASTRONOMY, &c. BY PROF. WALLACE, | BOTANY, &c. BY PROFESSOR HOOKER.
GEOLOGY, &c. BY PROF. JAMESON, | ZOOLOGY, &c. BY W. SWAINSON, ESQ.

ILLUSTRATED BY EIGHTY-TWO MAPS,
AND ABOUT ELEVEN HUNDRED OTHER ENGRAVINGS ON WOOD,
REPRESENTING THE MOST REMARKABLE OBJECTS OF NATURE AND ART
IN EVERY REGION OF THE GLOBE,
TOGETHER WITH A
NEW MAP OF THE UNITED STATES.

REVISED, WITH ADDITIONS,
BY THOMAS G. BRADFORD.

IN THREE VOLUMES.

VOL. III.

PHILADELPHIA:
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STEREOTYPED BY J. FAGAN.....PHILADELPHIA.
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TABLE OF LATITUDES AND LONGITUDES.

The Latitudes of Places, with their Longitudes from the Meridian of the Royal Observatory at Greenwich.

Names of Places.	Country, &c.	Latitude.	Longitude.
		° ′ ″	° ′ ″
Aalborg	Denmark	57 2 32 N	9 56 41 E
Aarhuus	Denmark	56 9 35 N	10 14 5 E
Abbeville	France	50 7 4 N	1 49 58 E
Aberdeen Mar. Coll.	Scotland	57 8 56 N	2 5 42 W
Abo	Finland	60 27 10 N	22 20 15 E
Aboukir Tower	Egypt	31 19 44 N	30 17 16 E
Acapulco	Mexico	16 50 19 N	99 49 18 W
Acheen Head	Sumatra	5 36 0 N	95 19 0 E
Acre	Syria	32 54 35 N	35 6 20 E
Adalia, Pier Head	Turkey in Asia	36 52 16 N	30 45 3 E
Adelsberg	Germany	45 38 10 N	14 23 25 E
Aden Cape	Arabia	12 43 30 N	45 14 0 E
Admiralty Isle	Paci. Ocean	2 11 45 S	146 12 2 E
Adria	Italy	45 2 57 N	12 3 55 E
Africa	Barbary	35 30 0 N	11 6 5 E
African Isles, S. Isle	Indian Ocean	4 55 0 S	54 9 0 E
Agde	France	43 18 40 N	3 28 10 E
Agen	France	44 12 22 N	0 36 35 E
Agimere	India	26 35 0 N	75 20 0 E
Agnes (St.) I.	Scilly Isles	49 54 0 N	6 19 0 W
Agra	India	27 12 30 N	78 17 0 E
Agria	Hungary	47 53 54 N	20 21 45 E
Aigues-Mortes	France	43 33 58 N	4 11 22 E
Aire	France	43 41 52 N	0 15 36 W
Aix	France	43 31 48 N	5 26 47 E
Aix Isle	France	46 1 38 N	1 10 41 W
Ajaccio	Corsica	41 55 1 N	8 44 4 E
Akerman	Russia in Europe	46 12 0 N	30 44 0 E
Albano	Italy	41 43 50 N	12 38 15 E
Albany	New York	42 39 3 N	73 44 50 W
Albi	France	43 55 46 N	2 8 33 E
Alcala de Henarez	Spain	40 28 40 N	3 23 22 W
Alcmaer	Netherlands	52 38 2 N	4 44 45 E
Aleppo	Turkey in Asia	36 11 25 N	37 10 15 E
Alexander Port	W. Coast of Africa	15 52 0 S	12 0 0 E
Alexandretta	Turkey in Asia	36 35 27 N	36 15 15 E
Alexandria	Egypt	31 14 5 N	29 55 15 E
Alexandria	Dist. Col.	38 39 0 N	77 4 0 W
Algesiras	Spain	36 8 0 N	5 26 12 W
Algiers Lighthouse	Barbary	36 48 36 N	3 4 55 E
Algoa Bay, Cape Recif	S. Coast of Africa	34 1 0 S	25 40 0 E
Alicante	Spain	38 20 41 N	0 28 35 W
Almeria	Spain	36 51 0 N	2 31 0 W
Alost	Belgium	50 56 18 N	4 2 13 E
Altdorf	Germany	47 45 8 N	9 34 15 E
Altengaard	Lapland	69 55 0 N	23 4 15 E
Altona	Germany	53 32 51 N	9 57 30 E
Amassero	Turkey in Asia	41 46 3 N	32 24 24 E
Amboyna Bay Fort Victoria	Indian Archipelago	3 40 0 S	128 15 0 E
Ambrose (St.) Isle	Pacific Ocean	26 20 0 S	79 51 0 W
Amiens	France	49 53 41 N	2 18 11 E
Amoy Harb., Chapel Isle	Chinese Sea	24 10 0 N	118 10 0 E
Amsterdam	Holland	52 22 17 N	4 53 15 E
Amsterdam Isle	Indian Archipelago	0 19 30 S	132 15 0 E
Amsterdam Island	Ind. Ocean	37 48 0 S	77 25 0 E
Anomour Cape	Turkey in Asia	36 0 50 N	32 51 0 E
Ancona	Italy	43 37 54 N	13 29 7 E
Andaman Isle (Great), NE. Pt.	Bay of Bengal	13 34 0 N	93 9 0 E
Andaman Isle (Little), SE. Pt.	Bay of Bengal	10 26 0 N	92 40 0 E
Anderson's I.	Sea of Kamtschatka	63 4 0 N	167 38 0 W
Andrew's (St.) Cape	Cyprus	35 41 40 N	34 37 25 E
Andrew's (St.) Isles	Pacific Ocean	5 20 0 N	132 16 0 E
Anegada Isle, NW. Point	Caribbee Isles	18 46 0 N	64 26 0 W
Angers	France	47 28 9 N	0 33 0 W
Angoulême	France	45 38 57 N	0 9 16 E
Angra Pequina Har.	W. Coast of Africa	26 37 0 S	15 16 0 E
Anguilla Isle, NE. Point	Caribbee Isles	18 16 0 N	63 2 30 W
Anholt Lighthouse	Denmark	56 44 20 N	11 38 51 E
Anjenga	India	8 39 30 N	77 0 0 E
Ann, Cape	Mass.	42 39 0 N	70 34 0 W
Annan Spire	Scotland	54 59 23 N	3 14 45 W
Annapolis	Maryland	39 0 0 N	76 43 0 W
Annobona I., High Peak	Atlantic Ocean	1 28 24 S	5 30 0 E
Ann's (St.) Shoals, N. End.	W. Coast of Africa	8 10 0 N	13 50 0 W
Anthony's (St.) I., NW. Pt.	Cape Verd Isles	17 11 0 N	25 6 0 W
Antibes	France	43 34 43 N	7 7 50 E
Anticosti Isle, Jupiter's Inlet	Gulf of St. Lawrence	49 26 0 N	63 38 15 W
Antigua Isle, Fort Hamilton	Caribbee Isles	17 4 30 N	61 54 45 W
Antongil Bay	Madagascar	15 27 23 S	50 23 30 E
Antonio (St.) Cape	Cuba	21 54 0 N	84 56 15 W
Antonio (St.) Cape	Spain	38 49 50 N	0 9 30 E
Antonio (St.) Cape, N. Pt.	Uruguay	36 20 0 S	56 45 0 W
Antonio (St.) Port	Patagonia	45 2 30 S	65 48 44 W
Antwerp	Belgium	51 13 16 N	4 24 10 E
Apenrade	Denmark	55 2 57 N	9 26 38 E
Apollonia Cape	W. Coast of Africa	5 5 0 N	2 39 0 W
Apt	France	43 52 29 N	5 23 50 E
Apuré River, the Mouth	Colombia	7 36 23 N	66 47 15 W
Aquileia	Italy	45 45 32 N	13 23 0 E
Aranda de Duero	Spain	41 40 12 N	3 40 42 W
Aranjuez	Spain	40 1 54 N	3 36 15 W
Arcas (las) Is.	G. of Mexico	20 16 0 N	91 54 0 W
Archangel	Russia in Europe	64 34 0 N	40 43 0 E
Arcot	India	12 54 14 N	79 21 33 E
Arendal	Norway	58 27 0 N	8 51 20 E

Names of Places.	Country, &c.	Latitude.	Longitude.
		° ′ ″	° ′ ″
Arensberg	Russia in Europe	58 15 9 N	22 27 45 E
ArgentalCape	Italy	42 23 25 N	11 9 39 E
Arica	Peru	18 26 40 S	70 16 5 W
Arles	France	43 40 31 N	4 37 47 E
Arnhem Cape	N. Holland	12 18 0 S	137 0 0 E
Arona	Italy	45 46 0 N	8 33 0 E
Arras	France	50 17 34 N	2 46 25 E
Ascension Isle	Atlantic Ocean	7 57 0 S	13 58 45 W
Ascension Isle	Carolinas	6 53 0 N	158 53 0 E
Asia's Isles, S. Western-most Isle	Indian Archipelago	1 0 0 N	131 17 0 E
Asinara Isle	Sardinia	41 6 0 N	8 18 0 E
Aspoe Isle, N. End	Norway	61 13 0 N	4 46 0 E
Assenade	Netherlands	51 13 42 N	3 45 18 E
Assisi	Italy	43 4 22 N	12 35 28 E
Assumption I.	Paci. Ocean	19 45 0 N	145 35 0 E
Astracan	Russia in Europe	46 21 12 N	48 2 45 E
Ath	Netherlands	50 42 17 N	3 46 32 E
Athens	Greece	37 58 1 N	23 46 14 E
Atooi Isle	Sandwich Is.	21 57 0 N	159 39 0 W
Atures	Colombia	5 38 34 N	67 59 0 W
Auburn	N. Y.	42 55 0 N	76 28 0 W
Auch	France	43 38 39 N	0 35 11 E
Auckland's Is.	Paci. Ocean	50 30 0 S	166 25 0 E
Augsburg	Germany	48 21 46 N	10 54 42 E
Augusta	Me.	44 18 43 N	69 50 0 W
Augusta	Geo.	33 28 0 N	81 54 0 W
Augustine (St.)	Flor.	29 48 30 N	81 35 0 W
Augustine (St.) Bay	Madagascar	23 30 0 S	44 0 0 E
Augustine (St.) Cape	Brazil	8 23 0 S	34 56 0 W
Aurora Isle	N. Hebrides	15 8 0 S	167 58 6 E
Autun	France	46 56 48 N	4 17 59 E
Auxerre	France	47 47 57 N	3 34 21 E
Aveiro	Portugal	40 38 24 N	8 37 54 W
Avignon	France	43 57 8 N	4 48 30 E
Avranches	France	48 41 23 N	1 21 22 W
Awatscha Bay	Kamtschatka	52 51 45 N	158 46 45 E
Aylesbury Steeple	England	51 49 3 N	0 48 41 W
Baba Cape	Turkey in Asia	39 30 15 N	25 51 40 E
Bab-el-mandeb Cape	Arabia	12 40 0 N	43 31 0 E
Bagdad	Turkey in Asia	33 19 40 N	44 24 45 E
Bahama Isle (Grand)	Lucayos	26 43 30 N	78 56 0 W
Balade Harb.	New Caledonia	20 17 0 S	164 26 0 E
Balagonan Point	Mindanao	7 51 0 N	122 24 0 E
Bald Cape	Newfoundland	51 39 45 N	55 27 35 W
Baltimore	Md.	39 17 13 N	76 37 50 W
Banca Isle	Ind. Archip.	1 52 0 N	125 24 0 E
Bancoot Riv.	India	17 57 0 N	73 9 0 E
Banda Isle	Indian Archipelago	4 31 0 S	130 0 0 E
Bangalore	India	12 57 34 N	77 32 45 E
Bangor	Me.	44 47 50 N	68 47 0 W
BantamPoint	Java	5 52 0 S	106 2 0 E
Baradello	Italy	45 47 13 N	9 5 44 E
Barbadoes I., Bridgetown	Caribbee Isles	13 5 0 N	59 41 15 W
Barbara (St.)	N. Albion	34 24 0 N	119 7 0 W
BarbaryPoint	W. Coast of Africa	15 53 0 N	16 31 15 W
Barbas Cape	W. Coast of Africa	22 15 30 N	16 40 35 W
Barbuda Isle	Caribbee Is.	17 38 0 N	61 50 0 W
Barcelona (New)	Colombia	10 6 52 N	64 44 30 W
Barcelona	Spain	41 21 44 N	2 9 57 E
Barnstable	Mass.	41 42 9 N	70 19 0 W
Barrow Point	N. Coast of America	71 23 21 N	156 21 30 W
Barfleur	France	49 40 0 N	1 15 0 W
Bartholomew (St.) Isle	Caribbee Isles	17 56 45 N	62 50 15 W
Basle	Switzerland	47 33 34 N	7 35 27 E
Bassano	Italy	45 45 34 N	11 44 50 E
Bassas Rocks (Great)	Ceylon	6 11 0 N	81 39 0 E
Bastia	Corsica	42 41 36 N	9 26 45 E
Batavia	N. Y.	42 59 0 N	78 13 0 W
Batavia Observatory	Java	6 9 0 S	106 51 45 E
Bayeux	France	49 16 34 N	0 41 56 W
Bayonne	France	43 29 15 N	1 28 26 W
Bazas	France	44 25 55 N	0 12 32 W
Beachy Head	England	50 44 24 N	0 15 12 E
Bear Isle	James' Bay	54 34 0 N	79 56 0 W
Beaufort	S. C.	32 25 57 N	80 41 23 W
Beauvais	France	49 26 7 N	2 5 0 E
BeecheyPoint	N. Coast of America	70 24 0 N	149 37 0 W
Behring's Isle	Sea of Kamtschatka	55 36 0 N	167 46 0 E
Belle Isle	France	47 17 17 N	3 4 45 W
Bencoolen, Fort Marlb.	Sumatra	3 48 0 S	102 0 0 E
Bender	Russia in Europe	46 50 32 N	29 36 15 E
Bengasi	Barbary	32 7 30 N	20 1 35 E
Benguela Bay	W. Coast of Africa	12 33 30 S	13 33 0 E
Bergamo	Italy	45 41 51 N	9 40 26 E
Bergen Castle	Norway	60 24 0 N	5 20 0 E
Bergen-op-Zoom	Netherlands	51 29 44 N	4 17 23 E
Berlin	Germany	52 31 45 N	13 22 15 E
Bermuda Isle, St. George's Town	Atlantic Ocean	32 22 0 N	64 30 0 W
Bermuda Isle, Wreck Hill	Atlantic Ocean	32 15 0 N	64 47 0 W
Berne	Switzerland	46 56 55 N	7 26 15 E
Berwick (N.), Law Staff	Scotland	56 3 8 N	2 42 11 W
Berwick upon Tweed, Spire	Scotland	55 46 21 N	1 59 41 W
Besançon	France	47 13 45 N	6 2 45 E
Beziers	France	43 20 31 N	3 13 0 E
Biorneburg	Russia in Europe	61 29 3 N	21 43 5 E
Bizerta	Barbary	37 17 20 N	9 50 35 E
Blanca Isle, North Point	CaribbeeSea	11 55 13 N	64 32 30 W
Blanco Cape	Patagonia	47 15 30 S	65 57 15 W
Blanco Cape	Peru	4 19 0 S	81 6 15 W
Blanco Cape	West Coast of Africa	20 46 55 N	17 1 45 W
Blas (St.) Port	Mexico	21 32 48 N	105 15 33 W
Blois	France	47 35 20 N	1 20 16 E
Bojador Cape	Luconia	18 42 0 N	121 0 0 E
Bojador Cape	W. Coast of Africa	26 12 30 N	14 26 45 W
Bologna	Italy	44 30 12 N	11 21 30 E
Bomba Isle	Barbary	32 22 28 N	23 16 57 E
Bombay Lighthouse	India	18 53 45 N	72 56 0 E
Bommel	Netherlands	51 48 53 N	4 55 5 E
Bon Cape	Barbary	37 4 45 N	11 4 15 E
Bona	Barbary	36 48 0 N	7 48 45 E
Bonavista Cape	Newfoundland	48 42 5 N	52 56 0 W
Bonavista Isle, Eng. Road	Cape Verd Isles	16 9 0 N	22 57 0 W
Bonifacio	Corsica	41 23 10 N	9 9 16 E
Boodroom	Turkey in Asia	37 1 0 N	27 25 0 E
Bordeaux	France	44 50 14 N	0 33 59 W
Bornholm Isle Hammershus	Baltic Sea	55 18 0 N	14 48 30 E
Boscawen and Keppel Isles	Pacif. Ocean	15 53 0 S	175 34 45 W
Boston	Mass.	42 21 15 N	71 4 9 W
Boulogne	France	50 43 37 N	1 36 59 E
Bourbon Isle, St. Denys	Indian Oc.	20 51 43 S	55 30 15 E
Bourgas	Turkey in Europe	40 14 30 N	26 27 7 E
Bourges	France	47 5 4 N	2 23 57 E
Bouro Isle, Cajeli Bay	Indian Archipelago	3 22 33 S	127 3 0 E
Bouton Isle, the Dome	Straits of Malacca	6 33 0 N	99 20 0 E
Bowen Port	Polar Sea	88 54 48 N	73 13 30 W
Bowling Green Cape	New Holland	19 23 0 S	147 25 0 E

Names of Places.	Country, &c.	Latitude.	Longitude.
		° ' ''	° ' ''
Brandenburg	Germany	52 27 0 N	12 53 15 E
Braunau	Germany	48 14 0 N	12 56 45 E
Brava	E. Coast of Africa	1 8 0 N	44 10 0 E
Breda	Holland	51 35 23 N	4 46 36 E
Bregançon	France	43 5 24 N	6 19 0 E
Bregentz	Germany	47 30 30 N	9 43 55 E
Bremen	Germany	53 4 38 N	8 48 0 E
Brescia	Italy	45 32 30 N	10 14 9 E
Brescon	France	43 15 21 N	3 27 8 E
Breslaw	Germany	51 6 30 N	17 2 18 E
Brest	France	48 23 14 N	4 28 45 W
Bridgewater Spire	England	51 7 41 N	2 59 39 W
Briel	Holland	51 54 15 N	4 9 51 E
Brieux (St.)	France	48 31 2 N	2 43 55 W
Brighton Chu.	England	50 49 32 N	0 7 40 W
Brill Rock	Ind. Archip.	6 5 0 S	118 51 15 E
Bristol Cathedral	England	51 27 6 N	2 35 29 W
Bristol	R. I.	41 39 58 N	71 19 0 W
Brixen	Germany	46 40 0 N	11 37 15 E
Brocken Mountain	Germany	51 48 29 N	10 36 35 E
Brooklyn	N. Y.	40 41 50 N	73 59 30 W
Bruck	Germany	47 24 34 N	15 15 41 E
Bruges	Belgium	51 12 33 N	3 13 33 E
Brunn	Germany	49 11 28 N	16 35 21 E
Brunswick	Germany	52 16 29 N	10 32 0 E
Brunswick House	New Wales	50 14 23 N	82 38 56 W
Brunswick	Me.	43 53 0 N	69 55 1 W
Brussels	Belgium	50 50 59 N	4 22 15 E
Bucharest	Walachia	44 26 45 N	26 8 15 E
Buckingham Spire	England	51 59 53 N	0 59 5 W
Buda	Hungary	47 29 44 N	19 2 30 E
Buenos Ayres	La Plata	34 36 40 S	58 24 30 W
Buffaloe	N. Y.	42 53 0 N	78 55 0 W
Burgos	Spain	42 20 59 N	2 40 15 W
Burhanpour	India	21 19 0 N	76 22 0 E
Burning Isle	Ind. Archip.	6 35 0 S	126 40 0 E
Busheer	Persia	29 0 0 N	50 56 0 E
Bussora, the Factory	Turkey in Asia	30 29 30 N	47 40 0 E
Button Isle	Hudson's Straits	60 35 0 N	65 19 45 W
Byam-Martin Cape	Greenland	73 32 0 N	77 13 0 W
Byron Cape	N. Holland	28 38 0 S	153 37 0 E
Cabrera Isle, the Middle	Mediterranean	39 7 30 N	3 0 20 E
Cader Idris Mountain	Wales	52 42 2 N	4 28 3 W
Cadiz Observatory	Spain	36 32 0 N	6 17 22 W
Caen	France	49 11 12 N	0 21 38 W
Caffa	Crimea	45 6 30 N	35 12 45 E
Cagliari	Sardinia	39 13 9 N	9 5 45 E
Cahors	France	44 25 59 N	1 27 17 E
Cairo	Egypt	30 2 21 N	31 18 45 E
Calais	France	50 57 32 N	1 51 16 E
Calcutta	India	22 34 15 N	88 26 0 E
Calicut	India	11 15 0 N	76 5 30 E
Callao Port, the Castle	Peru	12 3 38 S	77 4 19 W
Calmar	Sweden	56 40 30 N	16 26 15 E
Calpy	India	26 7 15 N	80 0 0 E
Calvi	Corsica	42 34 7 N	8 45 16 E
Cambray	France	50 10 37 N	3 13 47 E
Cambridge Observatory	England	52 12 43 N	0 0 30 E
Cambridge	Mass.	42 22 22 N	71 7 25 W
Camden	S. C.	34 17 0 N	80 30 0 W
Camerino	Italy	43 6 26 N	13 24 18 E
Cameron Cape	Mexico	16 0 0 N	85 12 30 W
Caminha	Portugal	41 52 42 N	8 44 48 W
Campeche	Mexico	19 50 45 N	90 30 30 W
Canandaigua	N. Y.	42 54 0 N	77 17 0 W
Cananore	India	11 51 11 N	75 43 44 E
Canary Isle (Grand) Pal.	Canaries	28 10 0 N	15 31 0 W
Candia	Candia	35 18 45 N	25 18 15 E
Candlemas Is.	Sandwich Land	57 10 0 S	27 13 0 W
Canea	Candia	35 28 45 N	24 12 45 E
Canterbury Cathedral	England	51 16 48 N	1 4 51 E
Canton	China	23 8 9 N	113 2 45 E
Canton Isle	Chinese Sea	15 23 0 N	109 6 0 E

Names of Places.	Country, &c.	Latitude.	Longitude.
		° ' ''	° ' ''
Cape-Digges I.	Hudson's Bay	62 41 0 N	78 50 0 W
Capones Pt.	Luconia	14 52 30 N	120 3 0 E
Capraja Isle	Mediter.	43 0 18 N	9 48 12 E
Caprera Isle	Mediter.	41 12 46 N	9 28 20 E
Capricorn Cape	N. Holland	23 28 0 S	151 15 0 E
Caracas	Colombia	10 30 50 N	67 1 45 W
Carcassonne	France	43 12 54 N	2 21 0 E
Cardigan Isle, Highest Pt.	Wales	52 7 53 N	4 40 27 W
Carlota	Spain	37 39 41 N	4 56 35 W
Carlsburg	Hungary	46 4 21 N	23 34 30 E
Carlscrona	Sweden	56 6 57 N	15 33 0 E
Carlshamn	Sweden	56 10 40 N	14 51 0 E
Carmarthen, W. End	England	51 51 10 N	4 18 48 W
Carmel Cape	Syria	32 51 10 N	34 59 35 E
Carmona	Spain	37 28 1 N	5 39 59 W
Carnicobar Isle	B. of Bengal	9 10 0 N	92 56 0 E
Carolina	Spain	38 17 5 N	3 36 13 W
Carpentras	France	41 3 28 N	5 2 43 E
Carrickfergus	Ireland	54 43 0 N	5 45 30 W
Carthagena	Spain	37 35 50 N	1 0 21 W
Carthagena	Colombia	10 25 18 N	75 38 0 W
Casal Maggiore	Italy	44 59 12 N	10 25 38 E
Casbin	Persia	36 11 0 N	49 33 15 E
Cassel	Germany	51 19 20 N	9 35 18 E
Castiglione Fort	Italy	42 45 58 N	10 52 15 E
Castres	France	43 37 3 N	2 15 1 E
Castries Bay	Tartary	51 29 0 N	140 56 19 E
Catania Mole	Sicily	37 28 20 N	15 4 30 E
Catherinburg	Russ. in As.	56 50 38 N	60 40 15 E
Catherine's (St.) I. Atomery I.	Brazil	27 21 58 S	48 0 0 W
Cavan	Ireland	53 51 41 N	7 25 15 W
Caxamarca	Peru	7 8 38 S	78 35 15 W
Cayenne	Guayana	4 56 15 N	52 14 45 W
Cefalonia Isle C. Viscardo	Mediterranean	38 27 10 N	20 33 25 E
Cefalu Cathedral	Sicily	38 0 10 N	14 3 5 E
Ceram Isle, E. Point	Indian Archipelago	3 55 0 S	130 40 0 E
Cerigo Isle, S. Point	Mediterranean	36 6 0 N	22 51 38 E
Cette Lighthouse	France	43 23 37 N	3 41 5 E
Ceuta Fort	Barbary	35 54 10 N	5 17 25 W
Cham Isle	Paci. Ocean	17 25 30 S	145 30 0 W
Chalons-sur-Marne	France	48 57 16 N	4 22 1 E
Chalons-sur-Saono	France	46 46 53 N	4 51 8 E
Chamisso Isle	Kotzebue Sound	66 13 11 N	161 46 0 W
Chandernagor	India	22 51 26 N	88 29 30 E
Charkow	Russia in Europe	49 59 43 N	36 26 32 E
Charles Cape	Labrador	62 46 30 N	74 15 0 W
Charles Cape	Va.	37 12 30 N	76 2 0 W
Charleston	S. C.	32 46 23 N	79 57 27 W
Charlestown	Mass.	42 22 0 N	71 3 33 W
Chartres	France	48 26 54 N	1 29 20 E
Chelidonia Cape	Turkey in Asia	36 12 0 N	30 26 5 E
Chelmsford	England	51 44 6 N	0 28 20 E
Cheltenham Steeple	England	51 54 7 N	2 4 6 W
Cherbourg	France	49 38 31 N	1 37 3 W
Cherson	Russia in Europe	46 37 46 N	32 38 33 E
Chester, Trinity Spire	England	53 11 26 N	2 53 1 W
Chichester Spire	England	50 50 11 N	0 46 36 W
Chiloe Isle, St. Carlos	Chili	41 53 0 S	72 54 45 W
Chin-chew Bay	China	24 54 0 N	118 40 0 E
Christiana Isle	Archipelago	36 15 0 N	25 3 45 E
Christiania	Norway	59 55 0 N	10 48 0 E
Christiansand	Norway	58 8 4 N	8 3 0 E
Christianstad	Sweden	56 1 15 N	14 9 30 E

Names of Places.	Country, &c.	Latitude.	Longitude.
		° ′ ″	° ′ ″
Christiansund	Norway....	63 7 0 N	7 42 0 E
Christianæstad	Russia in Europe	62 16 9 N	21 18 5 E
Christmas Harbour	Tierra del Fuego	55 21 54 S	69 47 14 W
ChristmasIsle	Indian Oc.	10 34 0 S	105 33 0 E
ChristmasIsle	Pacif. Ocean	1 57 45 N	157 34 45 W
Christopher (St.)	Caribbee Is.	17 19 0 N	62 49 0 W
Christoval St.	Solomon Is.	10 50 0 S	162 22 0 E
Christoval (Don)	Cuba.......	22 10 0 N	82 1 0 W
Chusan Harbour, Chusan	China......	30 26 0 N	121 41 0 E
Cilley.......	Germany...	46 40 0 N	15 24 45 E
Cincinnati ..	O...........	39 6 0 N	84 27 0 W
Ciotat (La) ..	France.....	43 10 29 N	5 37 0 E
CivitaVecchia	Italy.......	42 5 24 N	11 44 45 E
Clagenfurt...	Germany...	46 37 10 N	14 20 0 E
Clausthal....	Germany...	51 48 30 N	10 20 32 E
Clear Cape ..	Ireland.....	51 25 0 N	9 29 0 W
Clerke's Isle	Sea of Kamtschatka	63 15 0 N	169 40 0 W
Clermont....	France.....	49 22 48 N	2 25 5 E
Clermont-Ferrand	France.....	45 46 44 N	3 5 17 E
Cleves.......	Germany...	51 47 40 N	6 7 6 E
Cobourg.....	Germany...	50 15 18 N	10 58 0 E
Cochin......	India.......	9 57 30 N	76 29 0 E
Cod, Cape ...	Mass.......	42 30 0 N	70 40 0 W
Coimbra	Portugal ...	40 12 30 N	8 24 42 W
Colchester, St. Mary's	England ...	51 53 18 N	0 53 34 E
Collioure....	France.....	42 31 31 N	3 5 17 E
Cologne	Germany...	50 55 21 N	6 55 15 E
Colombo	Ceylon.....	6 57 0 N	80 0 0 E
Colonia Sacramento	Paraguay ..	34 26 0 S	57 58 0 W
ColumbiaRiv. Entrance	NW. Coast of Amer.	46 19 0 N	123 54 0 W
Columbia....	S. C........	33 57 0 N	81 7 0 W
Columbus ...	O......... ..	39 47 0 N	83 3 0 W
Como........	Italy.......	45 48 22 N	9 5 41 E
ComorinCape	India.......	8 5 0 N	77 44 0 E
Comoro Isle	Comoro Isles	11 32 0 S	43 25 0 E
Concepcion..	Chili.......	36 49 10 S	73 4 45 W
Concord.....	N. H........	43 12 29 N	71 29 0 W
Condom.....	France.....	43 57 49 N	0 22 22 E
Condore Isle	Ind. Archip.	8 40 0 N	106 42 0 E
Congoon	Persia......	27 48 45 N	52 6 0 E
Constance...	Germany...	47 36 10 N	9 8 15 E
Constantinople, St. Soph.	Turkey in Europe	41 1 27 N	28 55 15 E
Cope Cape...	Spain......	37 24 40 N	1 31 40 W
Copenhagen	Denmark...	55 41 4 N	12 35 6 E
Copiapo.....	Chili.......	27 10 0 S	71 5 15 W
Coquimbo ...	Chili.......	29 54 40 S	71 19 15 W
Cordova Port	Patagonia..	45 45 0 S	67 27 15 W
Cordovan T'r	France.....	45 35 15 N	1 10 23 W
Corfu I. Vido Isle	Mediterranean	39 38 5 N	19 55 38 E
Coringa Bay	India.......	16 48 0 N	82 24 0 E
Corinth	Greece.....	37 58 22 N	23 28 29 E
Cork, Quay at the Cove	Ireland.....	51 51 50 N	8 16 30 W
Coron.......	Greece.....	36 47 26 N	21 58 52 E
Corrientes Cape	E. Coast of Africa	24 1 30 S	35 51 0 E
Corrientes C.	Mexico.....	20 25 30 N	105 35 36 W
Corsoer.....	Denmark...	55 20 0 N	11 9 30 E
Corte.......	Corsica.....	42 18 2 N	9 8 46 E
Corvo Isle...	Azores.....	39 41 0 N	31 3 0 W
Courtray....	Belgium....	50 49 43 N	3 16 6 E
Coutances...	France.....	49 2 54 N	1 26 23 W
Coventry....	England....	52 24 25 N	1 30 5 W
Cracow	Gallicia....	50 3 38 N	19 57 9 E
Crail Spire ..	Scotland....	56 15 58 N	2 36 55 W
Crema.......	Italy.......	45 21 29 N	9 41 57 E
Cremona....	Italy.......	45 7 43 N	10 2 12 E
Crillon Cape	Sachalin ...	45 56 0 N	141 58 54 E
Cronstadt ...	Russia in Europe	59 59 26 N	29 49 30 E
Crooked Isle	Lucayos....	22 48 0 N	74 17 0 W
Cross Fell ...	England....	54 42 18 N	2 28 37 W
Cross Isle....	Russia in Europe	66 29 0 N	40 20 0 E
Cross Sound	N. W. Coast of America	58 12 0 N	136 24 0 W
Cruz Cape...	Cuba.......	19 48 0 N	77 35 0 W
Cuddalore ...	India	11 43 23 N	79 48 12 E
Cuença......	Peru	2 55 3 S	79 13 22 W
Culver Point	N. Holland	32 56 0 S	124 39 0 E
Cumana.....	Colombia...	10 27 37 N	64 9 45 W
Cumberland House	New Wales	53 56 40 N	102 5 58 W
Curaçao Isle	Caribbee Sea	12 8 0 N	69 0 0 W
Cuxhaven Lighthouse	Germany...	53 52 21 N	8 43 1 E
Cyrene......	N. Africa...	21 49 5 N	32 49 5 E
Dalrymple Port	V. Diemen's Land	41 4 0 S	146 48 0 E
Dame Marie Cape	St. Domingo	18 37 20 N	74 33 32 W
Damietta....	Egypt......	31 25 43 N	31 49 30 E
Dantzic	Prussia.....	54 20 48 N	18 38 5 E
Darby Cape	NW. Coast of Amer.	64 21 0 N	163 0 0 W
Dardanelles	Turkey in Asia	40 9 0 N	26 19 0 E
Darmstadt...	Germany...	49 56 24 N	8 34 49 E
Dauphin Fort	Madagascar	25 5 0 S	46 35 0 E
Daventry Sp.	England....	52 15 39 N	1 9 3 W
Deal Castle..	England....	51 13 5 N	1 23 59 E
Deception C.	Solomon Is.	8 20 30 S	157 2 29 E
Delagoa Bay	E. Coast of Africa	25 58 0 S	33 15 0 E
Delft........	Netherlands	52 0 49 N	4 21 45 E
Delgado Cape (North)	E. Coast of Africa	10 0 0 N	51 17 0 E
Delgado Cape (South)	E. Coast of Africa	10 6 0 S	40 50 0 E
Delhi........	India.......	28 37 0 N	77 40 0 E
Deliverance Cape	Louisiade ..	10 59 20 S	154 26 30 E
Delmenhorst	Germany...	53 3 29 N	8 39 28 E
Dendera.....	Egypt......	26 10 20 N	32 40 27 E
Derby Steeple	England....	52 55 32 N	1 28 16 W
Deseada Isle, NE. Point	Caribbee Is.	16 20 0 N	61 1 50 W
Desvelos (los) Cape	Patagonia..	48 21 30 S	66 8 15 W
Detroit......	Mich.	42 24 0 N	82 58 0 W
Devil's Isles	Guyana	5 27 0 N	52 34 0 W
Dhalac Isle, South End	Red Sea	15 32 30 N	40 15 0 E
Diamond Isle	B. of Bengal	15 52 0 N	94 19 0 E
Diamond P't	Sumatra ...	5 18 0 N	97 48 0 E
Diarbekir ...	Turkey in Asia	37 54 0 N	39 53 45 E
Die	France.....	44 45 31 N	5 22 33 E
Diego (St.)...	New Albion	32 39 30 N	117 16 48 W
Diego Garcia Isle	Ind. Ocean	7 21 0 S	72 22 0 E
Diego Ramirez Isles	Tierra del Fuego	56 27 0 S	68 39 0 W
Dieppe......	France.....	49 55 34 N	1 4 44 E
Digne.......	France.....	44 5 18 N	6 14 19 E
Dijon	France.....	47 19 25 N	5 2 5 E
Dillingen....	Germany...	48 34 17 N	10 30 29 E
Disco Isle ...	Baffin's Bay	69 10 0 N	54 40 0 W
Discovery Port	NW. Coast of Amer.	48 2 30 N	122 37 41 W
Diu Head....	India.......	20 42 0 N	71 6 0 E
Dixmude	Netherlands	51 2 12 N	2 52 3 E
Dobrzyn.....	Russia in Europe	52 38 5 N	19 35 15 E
Dofar.......	Arabia.....	17 3 0 N	54 10 0 E
Dol	France.....	44 33 8 N	1 45 3 W
Domburg....	Netherlands	51 33 51 N	3 29 52 E
Domingo (St.)	Hayti......	18 30 0 N	69 49 0 W
Dominica Isle	Caribbee Is.	15 18 0 N	61 32 0 W
Dondre Head	Ceylon.....	5 55 30 N	80 43 0 E
Donnawert..	Germany...	48 43 15 N	10 47 3 E
Dorchester Church	England....	50 42 58 N	2 25 40 W
Dordrecht ...	Holland....	51 48 54 N	4 39 42 E
Dorpat......	Russia in Europe	58 22 47 N	26 42 0 E
Dortmund ...	Germany...	51 31 24 N	7 26 41 E
Douglas Cape	NW. Coast of Amer.	58 56 0 N	153 50 0 W
Dover Castle	England....	51 7 47 N	1 19 7 E
Dover.......	Del.........	39 10 0 N	75 30 0 W
Dresden.....	Germany...	51 2 50 N	13 43 1 E
Dromedary Mount	N. Holland..	36 18 0 S	150 11 0 E
Drontheim ..	Norway....	63 25 50 N	10 23 25 E
Dublin Observatory	Ireland.....	53 23 13 N	6 20 30 W
Duke of York's Isle	Paci. Ocean	8 41 0 S	173 24 45 W
Dulau Signal Staff	England....	55 55 54 N	2 13 12 W

Names of Places.	Country, &c.	Latitude.	Longitude.
		° ′ ″	° ′ ″
Dundee	Scotland	56 28 0 N	2 56 0 W
Dunkirk	France	51 2 9 N	2 22 37 E
Durazzo	Turkey in Europe	41 19 30 N	19 27 25 E
Durham Cathedral	England	54 46 31 N	1 34 6 W
Dusseldorf	Germany	51 13 42 N	6 46 25 E
DuyfhenCape	N. Holland	12 35 0 S	141 42 0 E
East Cape	Madagascar	15 14 0 S	50 30 0 E
East Cape	N. Zealand	37 44 25 S	178 58 0 E
East Cape	Russia in Asia	66 5 30 N	169 44 0 W
Easter Isle, Centre	Paci. Ocean	27 9 33 S	109 25 20 W
East-Main House	Labrador	52 15 0 N	78 44 30 W
Eastport	Me.	44 54 0 N	66 56 0 W
Ebersdorf	Germany	50 29 33 N	11 40 23 E
Edam	Holland	52 30 49 N	5 2 56 E
Eddystone Is.	Solomon Is.	8 18 0 S	156 30 53 E
Eddystone Lighthouse	England	50 10 55 N	4 15 3 W
Edenton	N. C.	36 0 0 N	77 7 0 W
Edgecumbe Cape	NW. Coast of Amer.	57 2 0 N	135 46 15 W
Edinburgh Observatory	Scotland	55 57 19 N	3 10 56 W
Egg Isle	Lucayos	25 31 5 N	76 52 45 W
Egmont Port	Falkland Islands	51 22 0 S	60 1 0 W
Eichstadt	Germany	48 53 30 N	11 10 30 E
Eisenach	Germany	50 58 55 N	10 20 15 E
El-ArischFort	Egypt	31 5 30 N	33 48 25 E
Elba Isle, Porto-Ferrajo	Mediterranean	42 49 6 N	10 19 35 E
Elbing	Prussia	54 8 20 N	19 22 0 E
Elias (St.) Mount	NW. Coast of Amer.	60 17 35 N	140 50 6 W
Elizabeth St.	Russia in Europe	48 30 17 N	32 27 45 E
ElizabethBay	W. Coast of Africa	27 0 0 S	15 17 0 E
Elizabeth C.	Sachalin	54 24 30 N	142 46 30 E
El-Mellah C.	Barbary	31 57 5 N	25 4 45 E
Elsineur	Denmark	56 2 17 N	12 38 2 E
Ely Minster	England	52 24 49 N	0 16 35 E
Embrun	France	44 34 7 N	6 26 9 E
Emden	Germany	53 22 3 N	7 11 1 E
Emeralda	Colombia	3 11 0 N	66 3 0 W
Emmerick	Germany	51 49 52 N	6 14 51 E
Endeavour River	N. Holland	15 25 0 S	145 26 0 E
Engano Cape	Luconia	18 39 0 N	122 21 0 E
Engano Cape	Hayti	18 34 42 N	68 22 0 W
Engano Isle	Ind. Ocean	5 27 0 S	102 17 0 E
Engelholm	Sweden	56 14 20 N	12 52 15 E
Enkhuysen	Netherlands	52 42 22 N	5 17 41 E
Erfurth	Germany	50 58 45 N	11 2 26 E
Erlangen	Germany	49 35 36 N	11 4 0 E
Erzerum	Turkey in Asia	39 56 35 N	48 35 45 E
Escurial	Spain	40 35 50 N	4 7 50 W
Eustatia (St.) Isle	Caribbee Isles	17 29 0 N	63 5 0 W
Evreux	France	48 55 30 N	1 9 19 E
Exeter Cathedral	England	50 43 25 N	3 31 0 W
Ezijah	Spain	37 31 51 N	5 4 34 W
Fairweather Cape	NW. Coast of Amer.	58 50 40 N	138 5 50 W
Falkenberg	Sweden	56 53 54 N	12 30 15 E
Falsterbo	Sweden	55 23 4 N	12 49 45 E
Fano	Italy	43 51 0 N	12 59 53 E
Fano Isle	Mediter.	39 50 0 N	19 20 0 E
FarewellCape	Greenland	59 42 0 N	45 16 0 W
FarewellCape	N. Zealand	40 37 0 S	172 49 38 E
Faro	Portugal	36 59 0 N	7 51 0 W
Fartash Cape	Arabia	15 34 0 N	51 56 0 E
Fayal Isle, Horta	Azores	38 32 30 N	28 43 0 W
Fear, Cape	N. C.	33 48 0 N	77 57 0 W
Fecamp	France	49 45 24 N	0 23 3 E
Feldkirch	Germany	47 14 20 N	9 35 15 E
Feltri	Italy	46 0 43 N	11 55 24 E
Fermo	Italy	43 10 18 N	13 41 41 E
Fernando-Noronha Isle	Atlantic Ocean	3 55 0 S	32 35 0 W
Fernando-Po Isle	Atlantic Ocean	3 28 0 N	8 40 15 E
Ferrara	Italy	44 49 56 N	11 36 25 E
Ferrol	Spain	43 29 0 N	8 15 0 W
Fez	Morocco	34 6 3 N	5 1 19 W
Figueras	Spain	42 16 1 N	2 57 39 E
Finisterre C.	Spain	42 54 0 N	9 16 0 W
Fiorenzo (St.)	Corsica	42 41 2 N	9 17 43 E
Fish Bay	W. Coast of Africa	16 31 0 S	11 54 0 E
Fiume	Illyria	45 20 10 N	14 26 22 E
Flereckoe Isle	Norway	58 5 0 N	8 2 0 E
Flensborg	Denmark	54 47 18 N	9 27 40 E
Florence	Italy	43 46 41 N	11 15 45 E
Flores Isle	Azores	39 33 59 N	31 8 15 W
Flores Isle, NE. Point	Indian Archipelago	8 5 0 S	123 2 0 E
Flour (St.)	France	45 1 53 N	3 5 39 E
Flushing	Holland	51 26 42 N	3 34 57 E
Foggy Isle	NW. Coast of Amer.	56 12 0 N	157 19 30 W
Fogo Isle	CapeVerd Is.	14 56 0 N	24 20 0 W
Folkstone Church	England	51 4 47 N	1 10 52 E
Fontarabia	Spain	43 21 36 N	1 47 15 W
Foreland (N.) Lighthouse	England	51 22 30 N	1 26 50 E
Foreland (S.) Lighthouse	England	51 8 26 N	1 22 6 E
FormosaCape	W. Coast of Africa	4 25 0 N	5 59 0 E
Formosa Isle	Chinese Sea	25 11 0 N	121 56 0 E
Formosa Mount	India	1 49 0 N	102 56 0 E
Fortaventura Isle	Canaries	28 4 0 N	14 31 0 W
Foul Point	Madagascar	17 40 14 S	49 53 15 E
Fowler Point	N. Holland	32 1 0 S	132 27 0 E
FrancaisCape (Old)	Hayti	19 40 30 N	70 1 15 W
FrancaisCape the Town	Hayti	19 46 20 N	72 13 55 W
Francisco (St)	New Albion	37 49 0 N	122 8 0 W
Francisco Solano (St.)	Colombia	6 50 0 N	77 47 15 W
Franckfort on the Maine	Germany	50 7 29 N	8 36 0 E
Frankfort on the Oder	Germany	52 22 8 N	14 33 15 E
Frankfort	Ky.	38 14 0 N	84 40 0 W
Frauenberg	Prussia	54 21 34 N	19 40 30 E
Fredericksburg	Va.	38 34 0 N	77 38 0 W
Frederickton	N. B.	46 3 0 N	66 45 0 W
Freisingen	Germany	48 23 58 N	11 45 30 E
Freistadt	Germany	48 29 0 N	14 22 15 E
Frejus	France	43 25 52 N	6 44 9 E
Frio Cape	Brazil	23 1 30 S	42 3 30 W
Frio Cape	W. Coast of Africa	18 37 30 S	12 25 0 E
Fuentes Fort	Italy	46 8 29 N	9 24 59 E
Fuerte Isle	Colombia	9 24 0 N	76 16 0 W
Fulda	Germany	50 33 57 N	9 44 0 E
Furneaux Isle	Pacif. Ocean	17 11 0 S	143 6 40 W
Furnes	Netherlands	51 4 23 N	2 39 51 E
Fury and Hecla Strait (mid.)	N. America	69 48 10 N	83 29 27 W
Galega Isle	Ind. Ocean	10 25 0 S	56 38 0 E
Gall (St.) Observatory	Switzerland	47 25 40 N	9 22 15 E
Galle Point	Ceylon	6 1 0 N	80 20 0 E
Gallipoli	Turkey in Europe	40 25 33 N	26 37 30 E
Gallo Cape	Sicily	38 13 40 N	13 19 30 E
Gambier Isle	Pacif. Ocean	23 12 0 S	134 59 0 W
Ganjam	India	19 22 0 N	85 10 0 E
Gap	France	44 33 46 N	6 4 28 E
Gardafui Cape	E. Coast of Africa	11 50 0 N	51 32 0 E
Gaspee Bay	Canada	48 47 30 N	64 27 15 W
Gata Cape	Cyprus	34 31 30 N	33 3 20 E
Gata Cape	Spain	36 44 0 N	2 12 50 W
Gebel-TorIsle	Red Sea	15 32 0 N	42 0 0 E
Geer Cape	NW. Coast of Africa	30 38 0 N	9 51 45 W
Gefle	Sweden	60 39 45 N	17 8 30 E
Geneva	Switzerland	46 12 0 N	6 9 30 E
Genoa	Italy	44 25 0 N	8 58 0 E
George (St.) Cape	Newfoundland	48 30 5 N	59 20 33 W
George (St.) I.	Azores	38 31 0 N	27 51 0 W
Georgetown	S. C.	33 21 0 N	79 17 0 W
Georgia (S.) I.	Atl. Ocean	54 58 0 S	36 15 0 W
Gertrudenburg	Holland	51 42 5 N	4 51 54 E
Ghent	Belgium	51 3 21 N	3 43 50 E

Names of Places.	Country, &c.	Latitude.	Longitude.
		° ′ ″	° ′ ″
Gibraltar, Europa Point	Spain	36 6 40 N	5 21 45 W
Gijon	Spain	43 35 0 N	5 36 0 W
Gilolo Isle	Indian Archipelago	0 15 0 N	128 22 0 E
Girge	Egypt	26 22 20 N	31 55 6 E
Girgenti Lighthouse	Sicily	37 15 50 N	13 31 20 E
Glasgow	Scotland	55 51 32 N	4 16 0 W
Glastonbury Tor	England	51 8 43 N	2 41 10 W
Gloucester Cape	N. Holland	19 59 0 S	148 26 0 E
Gloucester Cathedral	England	51 52 3 N	2 14 15 W
Gloucester House	New Wales	51 24 20 N	87 2 59 W
Gloucester Mount	New Britain	5 31 0 S	148 23 0 E
Gluckow	Russia in Europe	51 40 30 N	34 20 15 E
Gluckstadt	Germany	53 47 42 N	9 27 2 E
Goa	India	15 30 0 N	73 53 0 E
Goat Isle	Philippine Isles	13 52 0 N	120 6 0 E
Godthaab	Greenland	64 10 0 N	51 48 0 W
Goes	Holland	51 30 18 N	3 53 31 E
Gomera Isle	Canaries	28 6 0 N	17 8 0 W
Gonave Isle	Hayti	18 49 0 N	73 1 0 W
Good Hope Cape	New Guinea	0 20 0 S	132 31 0 E
Good Hope Cape	S. Coast of Africa	34 29 0 S	18 23 15 E
Gore Isle	Sea of Kamtschatka	60 17 0 N	172 30 45 W
Goree Isle	W. Coast of Africa	14 40 0 N	17 26 0 W
Gorgano Isle	Mediter.	43 25 46 N	9 53 10 E
Gorgano Isle	Paci. Ocean	2 53 0 N	78 6 15 W
Gortz	Germany	45 57 30 N	13 28 45 E
Gotha, Observ. of Seeberg	Germany	50 56 8 N	10 44 0 E
Gottenburg	Sweden	57 42 4 N	11 57 45 E
Gottingen	Germany	51 31 50 N	9 56 30 E
Gouda	Holland	51 59 51 N	4 42 44 E
Graciosa Isle, Santa Cruz	Azores	39 5 0 N	28 0 0 W
Gradisca	Italy	45 53 30 N	13 25 0 E
Grafton Cape	N. Holland	16 53 0 S	146 10 0 E
Grange Point	Hayti	19 54 35 N	71 44 51 W
Granville	France	48 50 16 N	1 35 57 W
Gratz	Germany	47 4 9 N	15 27 15 E
Gravelines	France	50 59 10 N	2 7 50 E
Gravesando	Netherlands	52 0 20 N	4 9 45 E
Greenwich Observatory	England	51 28 40 N	0 0 0
Greifswalde	Germany	54 4 35 N	13 33 15 E
Grenaae	Denmark	56 24 57 N	10 53 59 E
Grenada Isle	Caribbee Is.	12 3 0 N	61 48 0 W
Grenoble	France	45 [illegible] 42 N	5 43 49 E
Grim Cape	Van Diem. Land	40 41 0 S	144 46 0 E
Grodno	Russia in Europe	53 40 30 N	23 49 45 E
Guadalcanal Isle	Solomon Is.	9 32 0 S	159 41 0 E
Guadaloupe I.	Pacif. Ocean	28 53 0 N	118 15 48 W
Guadaloupe I. Basseterre	Caribbee Isles	15 59 30 N	61 45 0 W
Guayra, La	Colombia	10 36 19 N	67 2 45 W
Guam Isle	Pacif. Ocean	13 21 0 N	144 20 0 E
Guanaxuato	Mexico	21 0 15 N	100 54 45 W
Guastalla	Italy	44 54 58 N	10 39 46 E
Guayaquil	Colombia	2 11 30 S	79 41 15 W
Gueldres	Germany	51 30 43 N	6 19 9 E
Gunterburg	Germany	49 9 37 N	13 27 30 E
Guntzburg	Germany	48 27 15 N	10 16 30 E
Gurief	Russia in Asia	47 7 0 N	51 50 30 E
Hadersleben	Denmark	55 15 15 N	9 30 49 E
Hague	Holland	52 4 50 N	4 18 47 E
Halberstadt	Germany	51 53 55 N	11 3 33 E
Halifax	Nova Scotia	44 39 20 N	63 36 45 W
Halle	Germany	51 29 5 N	11 58 2 E
Hallowell	Me.	44 17 0 N	69 50 0 W
Halmstadt	Sweden	56 39 45 N	12 52 0 E
Hamburg	Germany	53 32 51 N	9 58 37 E
Hameln	Germany	52 5 29 N	9 20 10 E
Hammerfest	Norway	70 38 22 N	23 43 30 E
Hanover	Germany	52 22 25 N	9 42 55 E
Hanover Isle (New)	Pacif. Ocean	2 31 0 S	149 50 0 E
Harlem	Holland	52 22 56 N	4 38 19 E
Harlem's Bay	China	22 31 0 N	114 51 0 E
Harlingen	Holland	53 10 32 N	5 24 47 E
Harrisburg	Pa.	40 16 0 N	76 50 0 W
Hartford	Ct.	41 46 0 N	72 50 0 W
Hartlepool Steeple	England	54 41 49 N	1 10 31 W
Hasting's Isle	Ind. Archip.	6 59 0 S	116 26 0 E
HatterasCape	N. C.	35 14 30 N	75 30 0 W
Havana, the Moro	Cuba	23 9 27 N	82 22 53 W
Havre de Grace	France	49 29 14 N	0 6 38 E
Heligoland I., Lighthouse	Germ. Ocean	54 11 34 N	7 53 13 E
Helena (St.) I.	Atlan. Oc.	15 55 0 S	5 43 0 W
Helena (St.) Point	*Patagonia*	*44 30 0 S*	*65 29 15 W*
Helena (St.) Point	Colombia	2 10 0 S	80 47 15 W
Helsingborg	Sweden	56 2 55 N	12 43 15 E
Helsingfors	Russia in Europe	60 10 0 N	25 0 15 E
Helvellin Mountain	England	54 31 43 N	3 0 21 W
Helvoet Sluys	Holland	51 49 29 N	3 27 53 E
Henlopen C. Lighthouse	Del.	38 47 16 N	75 5 0 W
Henry, Cape	Va.	36 56 0 N	76 4 0 W
Heraclea	Turkey in Europe	41 1 3 N	27 54 34 E
Herenthals	Netherlands	51 10 45 N	4 50 29 E
Hernosand I.	Sweden	62 38 0 N	17 53 15 E
Hesseloe Isle	Denmark	56 11 46 N	11 40 1 E
Hinchinbrook Cape	NW. Coast of Amer.	60 12 30 N	146 39 20 W
Hioring	Denmark	57 27 44 N	10 0 28 E
Hoberg Cape	Sweden	56 56 0 N	18 11 0 E
HogstiesIslets	Lucayos	21 39 0 N	73 56 4 W
Hogstraeten	Holland	51 21 5 N	4 45 48 E
Hola	Iceland	65 44 0 N	19 43 45 W
Holy Isle, Castle	England	55 40 20 N	1 46 38 W
Holyhead Mountain	England	53 18 51 N	4 39 27 W
Honda	Colombia	5 11 42 N	74 53 30 W
Hondschotte	Netherlands	50 58 56 N	2 35 14 E
Honfleur	France	49 25 13 N	0 14 14 W
Hood Point	N. Holland	34 23 0 S	119 33 0 E
Horn Cape	Tierra del Fuego	55 58 30 S	67 21 14 W
Horsham Church	England	51 3 36 N	0 19 43 W
Howe Cape	N. Holland	37 30 0 S	150 7 0 E
Huahine Isle	Pacif. Ocean	16 43 0 S	151 9 0 W
Hudson	N. Y.	42 14 0 N	73 46 0 W
Hudson's House	New Wales	53 0 32 N	106 27 20 W
Hulst	Netherlands	51 16 53 N	4 3 27 E
Hunter Port	N. Holland	32 56 0 S	151 43 0 E
Huntingdon Steeple	England	52 20 27 N	0 11 3 W
Huntsville	Al.	34 36 0 N	86 57 0 W
Husum	Denmark	54 28 59 N	9 4 42 E
Hydrabad	India	17 12 0 N	78 51 0 E
Hyeres	France	43 7 2 N	6 7 55 E
Ibague	Colombia	4 27 45 N	75 20 0 W
Icy Cape	NW. Coast of Amer.	70 29 0 N	161 42 30 W
Iglau	Germany	49 23 29 N	15 36 15 E
Ilchester Steeple	England	51 0 23 N	2 40 14 W
Indianapolis	Ind.	39 55 0 N	86 5 0 W
Ingleborough Hill	England	54 10 4 N	2 23 18 W
Ingolstadt	Germany	48 45 47 N	11 25 51 E
Inhamban Bay	E. Coast of Africa	23 51 0 S	35 42 0 E
Inspruck	Germany	47 16 8 N	11 23 45 E
Ipsara Isle	Archipelago	38 30 0 N	25 36 0 E
Irkutsk	Russia in Asia	52 16 41 N	104 11 30 E
Isaac Rock (Great)	Lucayos	26 2 15 N	79 8 45 W
Isaac Rock (Little)	Lucayos	25 57 0 N	78 50 50 E
IsabellaPoint	Hayti	19 58 43 N	71 12 35 W
Islamabad	India	22 20 0 N	91 45 15 E
Ismail	Turkey in Europe	45 21 0 N	28 50 15 E
Isola-Bella	Italy	45 53 11 N	8 32 3 E
Ispahan	Persia	32 24 34 N	51 50 15 E

Names of Places.	Country, &c.	Latitude. ° ′ ″	Longitude. ° ′ ″
Ivica Isle, the Castle	Mediterranean	38 53 16 N	1 29 12 E
Jackson, Port Castle Point	N. Holland	33 51 30 S	151 16 30 E
Jackson.....	Miss.	32 23 0 N	90 8 0 W
Jaffa........	Syria.......	32 5 25 N	34 46 8 E
Jaffa Cape...	N. Holland	36 57 0 S	139 41 0 E
Jago (St.) Isle	CapeVerd Is.	14 53 0 N	23 32 0 W
Jakutsk.....	Russia in Asia	62 1 50 N	129 42 30 E
James (St.) Cape	CochinChina	10 18 0 N	107 10 0 E
Jaroslavl....	Russia in Europe	57 37 30 N	40 10 15 E
Jarra Isle....	Straits of Malacca	4 0 0 N	100 14 0 E
Jask Cape...	Persia......	25 38 0 N	58 10 0 E
Jassy........	Moldavia...	47 8 30 N	27 30 15 E
Java Head...	Java.......	6 48 0 S	105 11 0 E
Jean-Leton Reef	CapeVerd Is.	15 48 0 N	22 56 0 W
Jefferson....	Mo.........	38 36 0 N	92 8 0 W
Jena........	Germany...	50 56 28 N	11 37 15 E
Jeniseisk....	Russ. in A.	58 27 17 N	91 58 45 E
JeremiePoint	Hayti......	18 39 57 N	74 13 22 W
Jersey Isle, St. Aubin	British Channel	49 12 59 N	2 10 41 W
Jerusalem...	Turkey in Asia	31 47 47 N	35 20 15 E
Jervis Bay, Cape George	N. Holland..	35 9 0 S	150 56 0 E
Jiddah......	Arabia.....	21 29 0 N	39 15 0 E
Johanna Isle	Comoro Isles	12 16 0 S	44 30 0 E
Johannisberg	Prussia.....	53 37 48 N	21 49 15 E
John's (St.) Cape	W. Coast of Africa	1 15 0 N	9 15 0 E
John's (St.) Fort	Newfoundland	47 33 45 N	52 39 45 W
John's (St) Isle	Caribbee Is.	18 20 0 N	64 47 0 W
Joseph (St.)..	California..	23 3 13 N	109 40 53 W
Juan (St.)...	Porto Rico..	18 29 10 N	66 13 15 W
Juan Fernandez Isle	Pacif. Ocean	33 40 0 S	78 58 15 W
Judenburg...	Germany...	47 43 20 N	14 42 45 E
Julian (St.) Port	Patagonia..	49 5 30 S	67 44 15 W
Kaiserheim..	Germany...	48 45 52 N	10 47 58 E
Kakava Isle	Turkey in Asia	36 11 0 N	29 57 0 E
Kalatoa Isle	Ind. Archip.	7 20 0 S	121 40 0 E
Kallandborg	Denmark...	55 40 54 N	11 6 33 E
Kalpeny Isle	Laccadives	10 5 0 N	74 1 0 E
Kaminieck..	Russia in Europe	48 40 50 N	27 1 30 E
Kamtschatkoi Ness	Kamtschatka	56 1 0 N	163 22 30 E
Karak Isle..	G. of Persia	29 16 0 N	50 27 0 E
Kasan.......	Russia in Europe	55 47 51 N	49 21 9 E
Kaskon.....	Russia in Europe	62 22 10 N	21 10 35 E
Katif Bay, N. Point	Arabia.....	26 36 30 N	50 12 0 E
Kaufbeuren	Germany...	47 53 30 N	10 36 45 E
Kerguelen's Land, Christ. Harb.	Indian Oc.	48 41 15 S	69 2 15 E
Kertch......	Crimea.....	45 21 19 N	36 21 21 E
Kiam Cheu.	China......	35 37 0 N	111 29 30 E
Kidwelly Spire	Wales......	51 44 15 N	4 17 22 W
Kiel.........	Germany...	54 19 43 N	10 8 18 E
Kilduin Isle	Russia in Europe	69 10 0 N	33 50 0 E
King's Isle..	Bass'sStraits	39 37 0 S	143 54 0 E
Kingston....	U. C........	44 8 0 N	76 40 0 W
Kinsale.....	Ireland.....	51 41 30 N	8 28 15 W
Kiow.......	Russia in Europe	50 27 0 N	30 27 45 E
Kiringskoi-Ostrog	Russia in Asia	57 47 0 N	108 3 0 E
Kittis.......	Lapland....	66 48 20 N	24 3 15 E
Klagenfurth	Germany...	46 37 10 N	14 20 0 E
Klin.........	Russia in Europe	56 20 18 N	36 48 6 E
Knoxville...	Tenn.......	35 59 0 N	83 54 0 W
Koenigsburg	Prussia.....	54 42 12 N	20 29 15 E
Kola........	Russia in Europe	68 52 30 N	33 0 45 E
Koluga......	Russia in Europe	54 30 0 N	36 5 15 E
Kongsbacka	Sweden....	57 27 0 N	12 7 0 E
Kongswinger	Norway....	60 12 11 N	11 58 0 E
Koraka Cape	Turkey in Asia	38 5 52 N	26 34 45 E
Korn-Neuburg	Germany...	48 21 22 N	16 19 0 E
Koseir......	Egypt......	26 8 0 N	34 15 0 E
Koslof.......	Russia in Europe	45 11 54 N	33 22 48 E
Kostroma...	Russia in Europe	57 45 40 N	41 12 51 E
Kovima (Lower)	Russia in Asia	68 18 0 N	163 18 15 E
Kovima (Upper)	Russia in Asia	65 28 0 N	153 35 15 E
Krageroe....	Norway....	58 51 30 N	9 30 30 E
Krannichfeld	Germany...	50 51 55 N	11 11 45 E
Krasnoyan..	Russia in Asia	56 1 2 N	92 20 52 E
Krementzouk	Russia in Europe	49 3 28 N	33 29 0 E
Krems.......	Germany...	48 21 30 N	15 36 0 E
Krio Cape...	Turkey in Asia	36 41 0 N	27 21 0 E
KuracheePort	India.......	24 52 0 N	67 17 0 E
Kursk.......	Russia in Europe	51 43 30 N	36 27 45 E
Ladrone Ile (Great)	Chinese Sea	21 57 0 N	113 43 0 E
Lagoon Isle	Pacif. Ocean	21 38 0 S	140 37 0 W
Lagos.......	Portugal...	37 6 0 N	8 38 3 W
Lagos.......	Turkey in Europe	40 58 42 N	25 3 36 E
Lampedoso I.	Mediterranean	35 31 15 N	12 30 5 E
Lampsaco...	Turkey in Asia	40 20 52 N	26 36 55 E
Lancaster...	Pa.........	40 2 36 N	76 20 30 W
Lancaster Steeple	England....	54 3 8 N	2 47 41 W
LancerotaIsle	Canaries...	29 14 0 N	13 26 0 W
Landsberg...	Germany...	48 2 58 N	10 53 31 E
Landscroon..	Sweden....	55 52 27 N	12 51 1 E
Langle Bay..	Sachalin...	48 59 0 N	142 33 4 E
Langle Peak	Jesso.......	45 11 0 N	148 13 13 E
Langres.....	France.....	47 51 59 N	5 20 5 E
Laon........	France.....	49 33 51 N	3 37 27 E
Larneca Cast.	Cyprus.....	34 54 30 N	33 40 45 E
Latikia.....	Syria.......	35 30 30 N	35 47 55 E
Laubach....	Germany...	46 1 48 N	14 46 40 E
Launceston Steeple	England....	50 38 18 N	4 20 42 W
Lausanne...	Switzerland	46 31 5 N	6 45 30 E
Lawrence (St) Isle	Sea of Kamtschatka	63 47 0 N	171 45 0 E
Leasowes Lighthouse	England....	53 24 50 N	3 6 49 W
LeeuwinCape	N. Holland	34 19 0 S	115 6 0 E
LeeuwinCape	N. Holland	34 25 50 S	115 35 15 E
Leghorn.....	Italy.......	43 33 5 N	10 16 45 E
Legnago.....	Italy.......	45 11 18 N	11 19 13 E
Leipsic......	Germany...	51 20 16 N	12 21 45 E
Leiva.......	Colombia...	5 30 0 N	73 53 52 W
Le Mans.....	France.....	48 0 30 N	0 11 35 E
Lemma Isle (Great)	Chinese Sea	22 2 0 N	114 16 0 E
Leon........	Mexico.....	12 21 0 N	86 45 0 W
Leon Isle...	Spain......	36 27 15 N	6 12 0 W
LeopoldSouth Island	N. America	73 56 0	90 0 0 W
Le Puy......	France.....	45 2 51 N	3 53 36 E
Lew-chew I. (Gt.) Napakiang	Chinese Sea	26 14 0 N	127 38 0 E
Lexington...	Ky.........	38 6 0 N	84 18 0 W
Leyden......	Holland....	52 9 30 N	4 29 13 E
Libau.......	Courland...	56 31 36 N	20 55 20 E
Lichtenau...	Germany..	51 37 24 N	8 54 7 E
Liège.......	Belgium....	50 39 22 N	5 31 42 E
Lilienthal...	Germany...	53 8 30 N	8 54 15
Lima........	Peru.......	12 3 0 S	76 56 45 W
Limoges.....	France....	45 49 53 N	1 15 23 E
Lincoln Isle	Chinese Sea	16 41 0 N	112 42 0 E
Lincoln Minster	England....	53 14 7 N	0 32 1 W
Lindesnaes Lighthouse	Norway....	57 58 0 N	7 3 0 E
Lintz........	Germany...	48 18 51 N	14 16 45 E
Lipari Isle, the Castle	Mediterranean	38 28 35 N	14 55 40 E
Lisbon Observatory	Portugal...	38 42 24 N	9 8 30 W

Names of Places.	Country, &c.	Latitude.	Longitude.
		° ′ ″	° ′ ″
Lisburne Cape	NW. Coast of Amer.	69 5 0 N	165 22 30 W
Litchfield Spire	England....	52 41 12 N	1 49 21 W
Little Rock	Ark.	34 40 0 N	92 12 0 W
Liverpool, St. Paul's	England....	53 24 40 N	2 58 55 W
Lizard W. Lighthouse	England....	49 57 44 N	5 11 5 W
Lizier (St.) ..	France.....	43 0 3 N	1 8 20 E
Lizieux	France.....	49 8 50 N	0 13 47 E
Lobos Quay	Lucayos....	22 24 50 N	77 36 30 W
Lodi	Italy.	45 18 31 N	9 30 52 E
Loheia	Arabia.....	15 44 0 N	42 44 0 E
Lombez	France.....	43 28 30 N	0 54 24 E
Lombock Isle	Ind. Archip.	8 21 0 S	116 26 0 E
Lomond Mountain W.	Scotland ...	56 14 57 N	3 17 4 W
London, New	Ct..........	41 22 0 N	72 9 0 W
London, St. Paul's	England....	51 30 49 N	0 5 47 W
Londonderry	Ireland.....	54 59 28 N	7 14 49 W
LookoutCape	N. C........	34 37 0 N	76 33 0 W
Lopez Cape	W. Coast of Africa	0 59 0 S	9 17 0 E
Loretto	Italy.......	43 27 0 N	13 35 5 E
L'Orient	France.....	47 45 11 N	3 21 2 W
Loughboro' Steeple	England....	52 46 31 N	1 11 54 W
Louisburgh..	Cape Breton Isle	45 53 40 N	59 54 45 W
Louisiade Cape	New Guinea	11 20 42 S	128 20 55 E
Louis St.....	Mo.........	38 36 0 N	89 36 0 W
Louisville ...	Ky.	38 3 0 N	85 30 0 W
Louvain.....	Belgium....	50 53 26 N	4 41 46 E
Lowell	Mass.	42 38 35 N	71 18 45 W
Lowestoff ...	England....	52 29 0 N	1 46 0 E
Lubeck......	Germany...	53 51 18 N	10 40 52 E
Lubeck Isle..	Ind. Archip.	5 45 0 S	112 48 0 E
Lucas (St.) Cape	California..	22 52 28 N	109 50 23 W
Luçon.......	France.....	46 27 15 N	1 9 45 W
Lugano	Italy.......	45 59 56 N	8 57 35 E
Luiz-Maranham (St.)	Brazil......	2 31 0 S	44 16 0 W
Lunde.......	Norway....	58 27 10 N	6 36 6 E
Lunden Tow.	Sweden	55 42 46 N	13 12 42 E
Lundy Isle ..	England....	51 9 47 N	4 38 28 W
Lutterworth Steeple	England....	52 27 20 N	1 12 1 W
Luxemburg..	Germany...	49 37 38 N	6 9 41 E
Lynn, Old Tower	England....	52 46 52 N	0 25 4 E
Lyons.......	France	45 45 58 N	4 49 24 E
Macao	China......	22 11 30 N	113 31 30 E
Macassar....	Celebes.....	5 9 0 S	119 39 0 E
Macerata....	Italy.......	43 18 36 N	13 26 15 E
Machichaco Point	Spain	43 28 0 N	2 49 0 W
Macon	France	46 18 27 N	4 50 0 E
Madeira Isle, Funchal	Atl. Ocean	32 37 0 N	16 54 46 W
Madona Isle	Archipelago	36 31 0 N	26 52 0 E
Madras......	India	13 4 0 N	80 22 0 E
Madrid Grand Square	Spain	40 24 57 N	3 42 15 W
Maestricht ..	Holland	50 51 7 N	5 41 1 E
Magadoxa...	E. Coast of Africa	2 5 0 N	45 49 0 E
Magdalen Isles	Gulf of St. Lawrence	47 11 0 N	61 43 0 W
Magdeburg ..	Germany...	52 8 4 N	11 38 59 E
Mahe Isles,St. Anne's Isle	Ind. Ocean	4 35 0 S	55 35 0 E
Mahon, Cape Mola	Minorca....	39 51 10 N	4 18 17 E
Mahouna Isle	Paci. Ocean	14 20 45 S	170 16 35 W
Majambo Bay Entrance	Madagascar	15 10 0 S	47 6 0 E
Maker Tower	England....	50 20 52 N	4 10 16 W
Makry, the Theatre	Turkey in Asia	36 36 28 N	29 7 15 E
Malacca Fort	India.......	2 12 0 N	102 15 0 E
Malaga......	Spain	36 43 30 N	4 25 2 W
Mala-Pasqua Cape	Porto Rico	17 59 0 N	65 5 0 W
Malespina Cape	Jesso.......	43 42 15 N	141 19 0 E
Malines	Belgium...	51 1 52 N	4 28 59 E
Mallicollo Isle	N. Hebrides	16 25 0 S	167 32 0 E
Malmo	Sweden	55 36 37 N	13 1 19 E
Malo (St.) ...	France.....	48 39 3 N	2 1 11 W
Malouines Isle, Port Egmont	Falkland Is.	51 25 0 S	59 59 15 W
Malta Isle, Valetta Observatory	Mediterranean	35 53 0 N	14 30 35 E
Manapar P't	India	8 22 0 N	78 16 0 E
Manchester, S. Mary's Spire	England....	53 29 0 N	2 14 22 W
Mandarin's Cap Isle	Chinese Sea	21 28 0 N	112 21 30 E
Mangalore ..	India.......	12 50 30 N	75 7 0 E
Mangea Isle	Pacif. Ocean	21 56 45 S	158 3 0 W
ManglesPoint	Peru	1 36 30 N	78 50 30 W
Manheim Observatory	Germany ...	49 29 18 N	8 28 0 E
Manilla	Luconia....	14 36 0 N	120 58 0 E
Mansfelt Isle	Hudson's B.	62 38 0 N	80 33 0 W
Mantua	Italy.......	45 9 16 N	10 48 12 E
Marblehead	Mass.	42 30 0 N	70 52 0 W
Marburg	Germany...	46 34 42 N	15 43 0 E
Margarita Is. Cape Isla	Caribbee Sea	11 10 0 N	63 58 12 W
Marienburg	Prussia.....	54 1 31 N	19 1 56 E
Marigalante Isle	Caribbee Is.	15 51 0 N	61 19 0 W
Markoe Isle, Lighthouse	Norway....	57 59 0 N	6 59 0 E
Marmara Isle	Turkey in Asia	40 37 4 N	27 30 50 E
MarseillesObservatory	France.....	43 17 49 N	5 22 15 E
Martha (St.)	Terra Firma	11 19 34 N	74 8 30 W
Martin (St.) Isle	Scilly Isles	49 58 0 N	6 15 0 W
Martin (St.) Isle	Caribbee Is.	18 4 0 N	63 14 0 W
Martin deRhé (St.)	France.....	46 12 18 N	1 21 52 W
MartinicoIsle Fort Royal	Caribbee Is.	14 35 49 N	61 5 45 W
Mary, St.Cape	Italy.......	39 47 30 N	18 23 20 E
Mary, St. Isle	Azores.....	36 57 0 N	25 18 0 W
Masafuero Is.	Pacif. Ocean	33 45 30 S	80 37 15 W
Massowa Bay	Abyssinia..	15 34 0 N	39 37 0 E
MatanzaPeak	Cuba.......	23 1 39 N	81 45 2 W
Matapan Cape	Turkey in Europe	36 23 20 N	22 29 30 E
Mataro......	Spain	41 32 23 N	2 26 48 E
Matsumay ..	Jesso.......	41 32 0 N	140 4 0 E
Matthew's St. Lighthouse	France.....	48 19 34 N	4 45 39 W
Mauritius Is., Port Louis	Ind. Ocean	20 9 45 S	57 28 30 E
May, Cape...	N. J........	38 56 46 N	74 53 6 W
May I., Lighthouse	Scotland ...	56 11 22 N	2 32 47 W
Mayo Isle, S. Point	Cape Verd Isles	15 4 50 N	23 8 30 W
Mayotta Isle, the Peak	Comoro Isles	12 54 0 S	45 14 0 E
Mazzarra Citadel	Sicily	37 30 50 N	12 33 30 E
Meaux	France.....	48 57 40 N	2 52 45 E
Meiningen ..	Germany...	50 35 20 N	10 24 13 E
Melille	Barbary....	35 18 15 N	2 56 10 W
Memel	Prussia.....	55 42 15 N	21 8 3 E
Mende	France.....	44 30 42 N	3 29 34 E
Mendocin Cape	NW. Coast of Amer.	40 29 0 N	124 29 15 W
Messina Lighthouse	Sicily	38 11 30 N	15 35 30 E
Mesurado Cape	W. Coast of Africa	6 15 0 N	10 36 30 W
Mesurat Cape	Barbary....	32 25 25 N	15 9 35 E
Metz	France.....	49 7 10 N	6 10 28 E
Mexico......	Mexico.....	19 25 45 N	99 5 15 W
Michael's St. Isle	Azores.....	37 48 0 N	25 13 0 W
Michael's St. Mount	England....	50 7 2 N	5 27 33 W
Michael's St. Mount	France.....	48 38 14 N	1 30 24 W
Middleburg..	Holland....	51 30 6 N	3 37 30 E
Milan Observatory	Italy.......	45 28 2 N	9 11 31 E
Milazzo Lighthouse	Sicily	38 15 58 N	15 13 30 E
Milledgeville	Geo.........	33 7 0 N	83 20 0 W

Names of Places.	Country, &c.	Latitude.	Longitude.
		° ′ ″	° ′ ″
Milo Isle, the Port	Archipelago	36 42 30 N	24 13 32 E
Mimbres Isle	Lucayos....	25 16 0 N	79 11 0 W
Mindoro Isle	Philippine Isles	13 27 0 N	120 20 0 E
Minehead Steeple	England....	51 12 42 N	3 28 4 W
Minicoy Isle	Laccadives	8 17 0 N	73 18 0 E
Mirepoix Observatory	France....	43 5 7 N	1 52 26 E
Mirik Cape .	W. Coast of Africa	19 3 48 N	16 12 5 W
Mississippi River, S. E. Entrance	La.	29 6 0 N	89 2 0 W
S. W. ditto ..	La.	28 57 0 N	89 29 0 W
Mittau	Russia in Europe	56 39 6 N	23 43 27 E
Mobile	Al.	30 40 0 N	88 11 0 W
Mocha	Arabia....	13 20 0 N	43 20 0 E
Mohilew	Russia in Europe	53 54 0 N	30 24 45 E
Mohilla Isle	Mozambique Chan.	12 20 0 S	43 50 0 E
Mombas Harbour, Entr.	E. Coast of Africa	4 4 0 S	40 2 0 E
Mondego C.	Portugal ...	40 11 54 N	8 54 6 W
Montauban Observatory	France.....	44 0 55 N	1 20 45 E
Montego Bay	Jamaica....	18 30 0 N	77 54 0 W
Montery	New Albion	36 35 45 N	121 51 6 W
Montevideo Lighthouse	La Plata ...	34 53 0 S	56 13 0 W
Montpelier Observatory	France.....	43 36 16 N	3 52 40 E
Montreal....	L. C.	45 31 0 N	73 35 0 W
Montrose....	Switzerland	45 55 56 N	7 52 32 E
Montserrat I., N. E. Point	Caribbee Is.	16 47 35 N	62 13 25 W
Monza	Italy	45 34 41 N	9 17 11 E
Moose Fort..	New Wales	51 15 54 N	80 56 24 W
Morales	Colombia...	8 15 30 N	74 1 0 W
Morant Point	Jamaica....	17 58 0 N	76 8 0 W
MorantQuays	CaribbeeSea	17 26 0 N	75 54 0 W
Morebat Cape	Arabia.....	17 0 0 N	54 32 0 E
Morillos (los) Cape	Porto Rico	17 58 30 N	67 11 0 W
MorningtonI.	N. Holland	16 32 0 S	139 50 0 E
Mornington Port	Nubia......	18 16 0 N	38 32 0 E
Moscow	Russia in Europe	55 45 45 N	37 33 0 E
Mosdok	Russia in Europe	43 43 40 N	43 50 15 E
Mossel Bay, Cape St. Blaize	S. Coast of Africa	34 10 0 S	22 7 0 E
Mount Cape	W. Coast of Africa	6 44 0 N	11 20 0 W
Mozambique Harbour	E. Coast of Africa	15 1 0 S	40 47 0 E
Mulgrave Port	NW. Coast of Amer.	59 34 17 N	139 42 6 W
Mulhacen ...	Germany...	51 12 59 N	10 28 45 E
Mulheim	Germany...	47 48 40 N	7 37 38 E
Mumbles .... Lighthouse	England....	51 34 0 N	3 57 20 W
Munich	Germany...	48 8 20 N	11 34 30 E
Munster.....	Germany...	51 58 10 N	7 36 21 E
Muscat Cove	Arabia.....	23 38 0 N	58 41 0 E
Mussendom Cape	Arabia.....	26 21 0 N	56 38 0 E
Naerden.....	Holland....	52 17 49 N	5 9 50 E
Namo Harbr.	China......	21 35 0 N	112 33 0 E
Namur......	Netherlands	50 28 30 N	4 51 7 E
Nancy	France.....	48 41 55 N	6 10 31 E
Nangasaki ..	Japan......	32 43 40 N	129 52 7 E
Nankin	China......	32 4 40 N	118 47 15 E
Nantes......	France.....	47 13 6 N	1 32 44 W
Nantucket...	Mass.	41 16 32 N	70 7 42 W
Naples......	Italy	40 50 15 N	14 15 45 E
Narbonne ...	France.....	43 11 22 N	3 0 22 E
Narva.......	Russia in Europe	59 22 53 N	28 14 30 E
Nashville....	Tenn.......	36 9 33 N	86 49 3 W
Natal Port...	E. Coast of Africa	29 55 0 S	31 28 0 E
Natchez.....	Miss.	31 34 0 N	91 24 42 W
Needles Lighthouse	England....	50 39 53 N	1 33 55 W
Negapatam Port	India.......	10 45 30 N	79 55 0 E
Negrais Cape	India.......	16 2 0 N	94 13 0 E
Neustadt	Germany...	47 48 27 N	16 13 32 E
Nevers	France.....	46 59 17 N	3 9 31 E
Nevis Isle, S. Point	Caribbee Is.	17 5 12 N	62 33 21 W
Newark Steeple	England....	53 4 30 N	0 49 18 W
Newark	N. J.	40 45 0 N	74 10 0 W
New Bedford	Mass.	41 38 7 N	70 56 0 W
Newbern	N. C.	35 20 0 N	77 5 0 W
Newbiggin Spire	England ...	55 11 14 N	1 29 42 W
Newbury Steeple	England....	51 24 5 N	1 19 9 W
Newburyport	Mass.	42 48 29 N	70 52 0 W
Neweuham Cape	NW. Coast of Amer.	58 41 30 N	162 19 30 W
New Haven	Ct..........	41 17 58 N	72 57 46 W
Newport	R. I.	41 29 0 N	71 21 14 W
Nice	Italy	43 41 16 N	7 16 37 E
Nicolas (St.) Mole	Hayti	19 49 20 N	73 29 33 W
Nicobar Isle (Great)	B. of Bengal	6 45 0 N	94 0 0 E
Nieuport	Belgium....	51 7 54 N	2 45 15 E
Nimeguen...	Holland	51 51 20 N	5 50 41 E
Ningpo......	China	29 57 45 N	120 18 15 E
Nismes......	France.....	43 50 8 N	4 21 45 E
Nizhnei-Novogorod	Russia in Europe	56 19 43 N	44 28 30 E
Nocera	Italy.......	43 6 40 N	12 46 17 E
Noirmoutier Isle	France.....	47 0 5 N	2 14 7 W
NootkaSound	NW. Coast of Amer.	49 35 15 N	126 36 46 W
Nordlingen ..	Germany...	48 51 0 N	10 28 30 E
Norfolk	Va.	36 50 50 N	76 18 47 W
Norfolk Isle	Paci. Ocean	29 1 45 S	168 10 15 E
Norkoping...	Sweden	58 35 0 N	16 11 0 E
North Cape..	Lapland....	71 10 0 N	26 [illegible] 45 E
North Cape..	N. Zealand	34 26 0 S	173 1 0 E
North Cape..	Russia in Asia	68 56 0 N	179 11 30 W
N. West Cape	N. Holland..	21 50 30 S	114 22 0 E
Norwich	Ct.	41 33 0 N	72 7 0 W
Noto Cape ..	Japan......	37 39 12 N	137 35 0 E
Nottingham Steeple	England....	52 57 8 N	1 8 14 W
Novara......	Italy	45 26 38 N	8 37 46 E
Novogorod ..	Russia in Europe	58 31 32 N	31 16 24 E
Noyon	France	49 34 42 N	3 0 50 E
Nukahivah I.	Marquesas	8 54 0 S	140 5 0 W
Nuremberg ..	Germany...	49 26 55 N	11 4 15 E
Oby Isle.....	Ind. Archip.	8 25 0 N	104 54 0 E
Ocanna	Spain	39 56 33 N	3 30 51 W
Oczakow	Russia in Europe	46 37 29 N	31 26 15 E
Odessa	Russia in Europe	46 30 22 N	30 45 22 E
Oerebro	Sweden	59 17 12 N	15 13 20 E
Oheteroa Isle	Pacif. Ocean	22 26 36 S	150 48 45 W
Ohitahoo Isle	Marquesas	9 55 0 S	139 8 0 W
Okhotsk.....	Russia in Asia	59 20 10 N	143 13 45 E
Oldenburg ...	Germany...	53 8 40 N	8 14 35 E
Oleron	France.....	43 11 1 N	0 36 15 E
Omer (St.)...	France.....	50 44 52 N	2 15 12 E
OonalashkaI.	NW. Coast of Amer.	53 54 0 N	166 22 0 W
Oonemak Cape	NW. Coast of Amer.	54 30 30 N	165 31 0 W
Oporto, the Bar	Portugal ...	41 8 54 N	8 37 18 W
Oran, St. Croix Castle	Barbary	35 44 27 N	0 39 24 W
Orange......	France	44 8 10 N	4 48 23 E
Orchilla Isle	CaribbeeSea	11 52 0 N	66 5 46 W
Orel.........	Russia in Europe	52 56 40 N	35 57 15 E
Orenburg....	Russia in Asia	51 46 5 N	55 4 45 E
Orford Cape	NW. Coast of America	42 52 0 N	124 25 0 W
Orford Lighthouse	England....	52 5 0 N	1 34 14 E
Orizava Peak	Mexico.....	19 2 17 N	97 15 0 W
Orleans	France.....	47 54 12 N	1 54 41 E
Orleans, New	La.	29 57 45 N	90 6 49 W
Ormus Isle, N. End	Gulf of Persia	27 7 0 N	56 37 0 E
Oropesa Cape	Spain	40 5 33 N	0 8 25 E

Names of Places.	Country, &c.	Latitude.	Longitude.
		° ′ ″	° ′ ″
Ortegal Cape	Spain	43 46 40 N	7 49 0 W
Osnaburg....	Germany...	52 16 35 N	8 1 11 E
Ostend......	Belgium....	51 13 57 N	2 55 8 E
Osterode	Germany...	51 44 15 N	10 16 54 E
Otaheite Isle, Venus Point	Pacif. Ocean	17 29 15 S	149 30 22 W
Otranto	Italy	40 9 20 N	18 29 15 E
Otway Cape	N. Holland	38 51 0 S	143 30 0 E
Owhyhee (Hawai) N. Point	Sandwich Isles	20 17 0 N	155 58 45 W
Oxford Observatory	England....	51 45 39 N	1 15 22 W
Padang Head	Sumatra ...	0 56 0 S	99 58 0 E
Paderborn ...	Germany...	51 43 37 N	8 43 51 E
Padua Observatory	Italy	45 24 2 N	11 51 32 E
Falawan Isle	Philippine I.	9 38 0 N	118 22 0 E
Palermo Observatory	Sicily	38 6 44 N	13 22 0 E
Palliser Cape	N. Zealand	41 38 0 S	175 23 12 E
Palma.......	Majorca....	39 34 4 N	2 39 15 E
Palma Isle ..	Canaries ...	28 54 0 N	17 53 0 E
Palmas Cape	W. Coast of Africa	4 23 0 N	7 38 0 W
Palmyra Pt.	Ceylon	9 40 0 N	80 26 0 E
Palos Cape ..	Spain	37 37 15 N	0 41 0 W
Pamplona ...	Spain	42 49 57 N	1 41 15 W
Panama.....	Colombia ..	8 58 50 N	79 27 15 W
Para	Brazil	1 28 0 S	48 29 45 W
Paramatta Observatory	N. Holland	33 48 45 S	151 1 15 W
Paris, Royal Observatory	France.....	48 50 14 N	2 20 23 E
Parma	Italy	44 48 1 N	10 26 45 E
Paros Isle ...	Archipelago	37 3 46 N	25 11 0 E
Pasto........	Colombia...	1 13 6 N	77 21 25 W
Patchew Isles, Easternmost I.	Pacif. Ocean	24 42 0 N	125 36 0 E
Patrick's (St.) Head	V. Diemen's Land	41 42 0 S	148 24 0 E
Patta........	E. Coast of Africa	2 10 0 S	41 18 0 E
Paul (St.)....	Brazil	23 33 10 S	46 39 10 W
Paul's (St.) Cape	W. Coast of Africa	5 44 0 N	1 7 0 E
Paul-de-Leon (St.	France.....	48 41 24 N	3 58 22 W
Paul-de-Loando (St.)	W. Coast of Africa	8 47 30 S	13 53 0 E
Paul-trois Chateaux St.	France.....	44 21 3 N	4 45 54 E
Pavia	Italy	45 10 47 N	9 9 48 E
Payta Point	Peru	5 3 30 S	81 2 0 W
Pedro Branco Isle	Chinese Sea	22 19 30 N	115 8 0 E
Pedro Branco Isle	Indian Archipelago	1 20 0 N	104 25 0 E
Pekin, Imper. Observatory	China	39 54 13 N	116 27 45 E
Pelew Isles, Kyangle Isle	Pacif. Ocean	8 8 30 N	134 50 0 E
Peniscola....	Spain	40 22 40 N	0 29 30 E
Penrith Beac.	England....	54 40 37 N	2 43 59 W
Pensacola ...	Flor.	30 28 0 N	87 12 0 W
Perceval Cape	Falkland Is.	51 46 30 S	61 11 0 W
Perekop	Crimea.....	46 8 57 N	33 42 9 E
Perigueux ...	France	45 11 8 N	0 43 34 E
Perm........	Russia in Europe	58 1 13 N	56 26 30 E
Pernambuco	Brazil	8 4 0 S	34 53 0 W
Peros Banhos Isles	Indian Oc.	5 23 0 S	71 57 0 E
Perotte......	Mexico.....	19 32 54 N	97 13 24 W
Perugia	Italy	43 6 46 N	12 22 13 E
Perpignan...	France	42 42 3 N	2 54 9 E
Pesaro	Italy	43 55 1 N	12 53 36 E
Peterborough Cathedral	England....	52 35 40 N	0 14 45 W
Petersburg...	Russia in Europe	59 56 23 N	30 18 45 E
Petersburg...	Va.	37 13 34 N	77 20 0 W
Petropaulowskoi-Ostrog.	Kamtschatka	53 0 15 N	158 49 0 E
Philadelphia	Pa.	39 56 59 N	75 11 0 W
Philip. Isles..	Paci. Ocean	8 6 0 N	140 3 0 E
Philippeville	France	50 11 19 N	4 32 34 E
Philipsburg..	Germany...	49 14 1 N	8 26 49 E
Placenza	Italy	45 2 44 N	9 42 32 E
Pico Isle, the Peak	Azores	38 28 30 N	28 33 0 W
Pierre, St. Isle	Newfoundl.	46 48 0 N	56 12 0 W
Pillar Cape..	Patagonia..	52 43 0 S	74 38 0 W
Pillar Cape..	Van Diem. Land	43 12 0 S	148 5 0 E
Pillau.......	Prussia.. ..	54 33 39 N	19 52 30 E
Pilsen.......	Germany...	49 45 10 N	13 23 16 E
Piombino ...	Italy	42 55 27 N	10 31 2 E
Pisa Observatory	Italy	43 43 11 N	10 24 0 E
Piscadores Is. largest Isle	Chinese Sea	23 32 0 N	119 46 0 E
Pitcairn's Isle	Pacif. Ocean	25 4 0 S	130 25 0 W
Pittsburgh...	Pa.	40 32 0 N	80 8 0 W
Plata........	Colombia...	2 25 0 N	75 51 35 W
Plattsburgh..	N. Y.	44 42 0 N	73 26 0 W
Plettenberg Bay	South Coast of Africa	34 6 0 S	23 22 0 E
Plymouth....	England....	50 22 20 N	4 7 16 W
Plynlimmon Mountain	Wales......	52 28 3 N	3 46 4 W
Poictiers	France	46 35 0 N	0 20 43 E
Pola.........	Istria	44 52 16 N	13 50 4 E
Polotsk......	Russia in Europe	55 28 56 N	28 48 0 E
Pondicherry	India......	11 56 0 N	79 51 0 E
Poole Church	England...	50 42 50 N	1 58 55 W
Popayan	Colombia...	2 26 18 N	76 39 54 W
Port-au-Prince	Hayti	18 33 0 N	72 21 0 W
Portland Isles Easternmost Isle	Pacif. Ocean	2 36 0 S	149 39 0 E
Portland Lighthouse	England....	50 31 22 N	2 26 50 W
Portland	Me.	43 39 26 N	70 20 30 W
Porto	Italy	41 46 44 N	12 14 25 E
Porto-Bello ..	Colombia...	9 34 30 N	79 45 0 W
Porto-Cabello	Colombia...	10 28 22 N	68 6 45 W
Porto-Galete	Spain	43 20 10 N	3 5 20 W
Porto-Vecchio	Corsica.....	41 35 29 N	9 16 37 E
Port Royal...	Jamaica....	17 55 30 N	76 52 30 W
Portsmouth..	N. H.	43 4 54 N	70 45 0 W
Portsmouth Observatory	England....	50 48 3 N	1 5 59 W
Prague......	Germany...	50 5 19 N	14 25 15 E
Praslin Port	New Ireland	4 49 27 S	153 6 45 E
Presburg	Hungary ...	48 8 7 N	17 10 45 E
Prince's Isle	Straits of Sunda	6 35 0 S	105 15 0 E
Prince's Isle	Atl. Ocean	1 41 0 N	7 26 0 E
Pr. Edward's Isle	Gulf of St. Lawrence	46 14 0 N	62 56 0 W
Pr. Edward's Isles, largest	Ind. Ocean	46 53 0 S	37 46 0 E
Pr. of Wales' Cape	NW. Coast of Amer.	65 45 30 N	168 17 30 W
Pr. of Wales' Fort	New Wales	58 47 32 N	94 13 55 W
Pr. of Wales' Isle	Straits of Malacca	5 25 0 N	100 21 0 E
Princeton ...	N. J.	40 22 0 N	74 35 0 W
Pr. W. Henry's Isle	Pacif. Ocean	19 0 0 S	141 22 0 W
Prior Cape ..	Spain	43 34 15 N	8 22 0 W
Providence ..	R. I.	41 49 25 N	71 25 56 W
Providence Isle (Little)	Pacif. Ocean	0 11 0 S	135 12 0 E
Providence Isle	Lucayos....	22 5 0 N	77 10 0 W
Pylstaart Isle	Friendly Is.	22 23 30 S	175 49 30 W
Quebec......	Canada	46 47 30 N	70 56 30 W
Quedlinburg	Germany...	51 47 58 N	11 7 39 E
Queen Charlotte's Cape	N. Caledonia	22 15 0 S	167 13 0 E
Queen Charlotte's Sound	N. Zealand	41 5 57 S	174 20 50 E
Quelpaert Isle	Corea	33 7 49 N	126 18 57 E
Quemada Point	Patagonia..	50 18 30 S	68 30 15 W
Quentin (St.)	France.....	49 50 51 N	3 17 40 E
Queretaro...	Mexico.....	20 36 39 N	100 10 15 W
Quilon Point	India	8 52 0 N	76 48 30 E
Quimper	France	47 58 29 N	4 5 45 W
Quito	Colombia...	0 13 17 S	78 45 15 W
Race Cape...	Newfoundl.	46 40 0 N	53 3 15 W
Radstock C.	N. Holland	33 12 0 S	134 15 0 E
Ragusa......	Dalmatia...	42 39 0 N	18 6 15 E
Raleigh	N. C.	35 47 0 N	78 48 0 W
Ramsey Isle	Wales......	51 51 43 N	5 19 36 W
Rasalgat Cape	Arabia	22 22 0 N	59 58 0 E
Ras-el-Ans Cape	Egypt	23 56 0 N	35 48 0 E

Names of Places.	Country, &c.	Latitude.	Longitude.
		° ′ ″	° ′ ″
Ras-Mahomed Cape	Arabia	27 43 0 N	34 15 0 E
Ratisbon	Germany	49 0 53 N	12 4 30 E
Ravenna	Italy	44 25 5 N	12 10 51 E
Reculver (South)	England	51 22 47 N	1 11 50 E
RedondoCape	Patagonia	50 51 0 S	69 8 15 W
Redondo Isle	Caribbee Is.	17 1 0 N	62 19 0 W
Reikianess Cape	Iceland	63 55 0 N	22 47 30 W
Remedios Cape	Mexico	13 30 0 N	89 40 0 W
Remedios Port	NW. Coast of Amer.	57 24 15 N	135 53 50 W
Rendsburg	Denmark	54 18 40 N	9 39 53 E
Rennes	France	48 6 50 N	1 40 47 W
Resolution I.	Pacif. Ocean	17 23 30 S	141 45 0 W
Resolution I.	Hudson's Straits	61 29 0 N	65 16 0 W
Resolution F. Slave Lake	N. America	61 10 26 N	113 45 0 W
Retford, East Spire	England	53 23 58 N	0 54 3 W
Revel	Russia in Europe	59 26 33 N	24 35 9 E
Rhé Is. Light.	France	46 14 49 N	1 33 25 W
Rheims	France	49 14 41 N	4 2 47 E
Rhodes Harb.	Rhodes Isle	36 26 0 N	28 15 0 E
Rhodez	France	44 21 8 N	2 34 29 E
Richmond	Va.	37 32 17 N	77 26 28 W
Riesenkuppe	Germany	50 43 18 N	15 40 0 E
Riga	Russia in Europe	56 57 1 N	24 7 45 E
Rimini	Italy	44 3 43 N	12 32 51 E
Riobamba Nuevo	Colombia	1 41 46 S	78 48 46 W
Rio Janeiro	Brazil	22 56 0 S	43 14 0 W
Ripon Church	England	54 8 11 N	1 30 47 W
Roca Partida Point	Mexico	18 44 0 N	94 58 0 W
Rochefort	France	45 56 10 N	0 57 34 W
Rochelle	France	46 9 21 N	1 9 40 W
Rodosto	Turkey in Europe	40 58 31 N	27 25 31 E
Rodrigue Isle	Ind. Ocean	19 40 40 S	63 11 45 E
Romanzoff Cape	Jesso	45 25 50 N	141 34 30 E
Romberg	Tartary	53 26 30 N	141 44 45 E
Rome	Italy	41 53 54 N	12 29 47 E
Rondoe Isle	Norway	62 24 30 N	5 35 30 E
Rosetta	Egypt	31 25 0 N	30 28 20 E
Rossal Point	England	53 55 0 N	3 2 0 W
Rothenburg	Germany	48 29 36 N	8 56 54 E
Rotterdam	Holland	51 55 22 N	4 29 11 E
Rotuma Isle	Paci. Ocean	12 30 0 S	177 50 0 E
Rouen	France	49 26 27 N	1 5 59 E
Round Isle	NW. Coast of Amer.	58 56 30 N	159 53 30 W
Roveredo	Germany	45 55 36 N	11 0 35 E
Ruremonde	Germany	51 11 48 N	5 59 14 E
Ruttenpour	India	22 16 0 N	82 36 0 E
Ryacotta	India	12 31 16 N	78 3 36 E
Rypen	Denmark	55 19 57 N	8 47 20 E
Saba Isle	Caribbee Is.	17 39 0 N	63 18 0 W
Sabionetta	Italy	44 59 47 N	10 30 5 E
Sable Cape	Nova Scotia	43 26 0 N	65 34 0 W
Sable Cape	Flor.	24 50 0 N	81 15 0 W
Sable I.	N. S.	44 0 0 N	60 32 0 W
Sackett'sHarbour	N. Y.	43 55 0 N	75 57 0 W
Saco	Me.	43 31 0 N	70 26 0 W
Sahib Isle	Archipelago	38 40 0 N	26 28 15 E
Saintes	France	45 44 42 N	0 38 2 W
Saintes Is. N. W. Pt. of W. I.	Caribbee Is.	15 51 25 N	61 41 25 W
Sal Isle	CapeVerd Is.	16 41 0 N	23 3 0 W
Salamanca	Mexico	20 40 0 N	100 55 45 W
Salayer Strait	Ind. Archip.	5 40 0 S	120 28 0 E
Salee	Morocco	34 5 0 N	6 42 45 W
Salehhieh	Egypt	30 48 28 N	31 59 45 E
Salem	Mass.	42 31 19 N	70 54 0 W
Salisbury Isle	Hudson's B.	63 29 0 N	76 47 0 W
Salisbury Sp.	England	51 3 56 N	1 47 24 W
Salonica	Turkey in Europe	48 38 7 N	22 56 0 E
Saltzburg	Germany	47 48 10 N	13 1 24 E
Salvador (St.)	Brazil	13 5 0 S	38 28 0 W
Salvages Isles	Atlan. Oc.	30 9 0 N	16 3 0 W
Salvages Isles	Hayti	19 16 26 N	69 13 23 W
Samana Isle	Lucayos	23 12 0 N	73 40 0 W
Samar Isle	Philipp. Isles	12 40 0 N	125 30 0 E

Names of Places.	Country, &c.	Latitude.	Longitude.
		° ′ ″	° ′ ″
Samara	Russ. in Eu.	48 29 35 N	35 20 15 E
Samarang B.	Java	6 53 0 S	110 34 0 E
Samboangan	Mindanao	6 43 0 N	122 14 0 E
Sandwich Cp.	N. Holland	18 19 0 S	146 29 0 E
Sandy Cape	N. Holland	24 42 0 S	153 16 0 E
Sandy Hook Lighthouse	N. J.	40 27 0 N	74 1 30 W
SangaarCape	Japan	41 16 30 N	140 14 0 E
San-ho Cape	CochinChina	13 44 0 N	109 14 0 E
Santa CruzIs.	Pacif. Ocean	10 41 0 S	168 5 0 E
Santa CruzIs.	Caribbee Is.	17 44 8 N	64 48 29 W
Santa-Fe	Mexico	36 12 0 N	104 52 45 W
S.-Fe de Bogota	Colombia	4 35 48 N	74 13 53 W
SantanderBar	Mexico	23 45 0 N	97 58 0 W
Santander Pt.	Spain	43 28 20 N	3 40 50 W
Santona	Spain	43 26 50 N	3 29 35 W
Saratof	Russ. in Eu.	51 31 28 N	46 0 15 E
Sark Isle	Engl. Chan.	49 23 32 N	2 24 30 W
Savage Isle	Pacif. Ocean	19 2 15 S	169 30 30 W
Savanna Lighthouse	Geo.	32 0 45 N	80 55 45 W
Savu Isle	Ind. Archip.	10 30 0 S	121 43 0 E
ScalaNuovaI.	Archipelago	37 51 0 N	27 15 0 E
Scarbgh. Shoal	Chinese Sea	15 8 0 N	117 48 0 E
Shiedam	Holland	51 55 9 N	4 24 0 E
Schluckenau	Germany	51 0 30 N	14 26 30 E
Schmalkalden	Germany	50 44 36 N	10 26 15 E
Schnittken	Germany	53 48 10 N	21 27 42 E
Schweidnitz	Germany	50 50 37 N	16 27 15 E
Sebastian (St)	Spain	43 19 30 N	1 58 30 W
Selinginskoi-Ostrog	Russia in Asia	51 6 6 N	106 38 45 E
Selivria	Turkey in Europe	41 4 35 N	28 11 3 E
Senlis	France	49 12 28 N	2 35 13 E
Sens	France	48 11 55 N	3 16 59 E
Serdze-Kamen Cape	Russia in Asia	67 3 0 N	171 54 30 W
Seringapatam	India	12 25 20 N	76 41 52 E
Setuval	Portugal	38 28 54 N	8 53 52 W
Seven Capes, N. Cape	Turkey in Asia	36 22 50 N	29 8 10 E
Shan-tung Pr.	China	37 25 0 N	122 27 0 E
Sheerness Staff	England	51 11 22 N	0 44 26 E
Sherbro Isle	W. Coast of Africa	7 29 0 N	12 45 0 W
Shetland Is. (South)	Atlant. Oc.	62 52 30 S	63 42 0 W
Shrewsbury S. Chad's Steeple	England	52 42 28 N	2 44 53 W
Siam	India	14 20 40 N	100 50 15 E
Sienna	Italy	43 22 0 N	11 10 15 E
Sierra Leone Cape	W. Coast of Africa	8 31 0 N	13 18 0 W
Silinity, the Mausoleum	Turkey in Asia	36 15 29 N	32 19 15 E
Silver Quay Bank, SE. end	Lucayos	20 18 0 N	69 30 0 W
Sincapore	E. Indies	1 12 0 N	103 30 0 E
Singaufu	China	34 16 45 N	108 57 0 E
Sinigaglia	Italy	43 43 16 N	13 11 45 E
Sinope	Turkey in Asia	42 2 16 N	34 41 15 E
Siout	Egypt	27 13 14 N	31 13 32 E
Sisteron	Franco	44 11 51 N	5 56 2 E
Skagen Cape Lighthouse	Denmark	57 43 44 N	10 37 50 E
Skiddaw Mountain	England	54 39 12 N	3 8 9 W
Skudesnæs Lighthouse	Norway	50 8 40 N	5 19 0 E
Sleswick	Denmark	54 31 27 N	9 33 57 E
Sluys	Netherlands	51 18 35 N	3 23 9 E
Smith's Isles	Pacif. Ocean	14 30 30 N	168 42 15 E
Smyrna	Turk. in As.	38 25 0 N	27 6 0 E
Snowdon M.	Wales	53 4 9 N	4 3 38 W
Socorro Isle	Pacif. Ocean	18 40 0 N	110 17 0 W
Socotra Isle	Arabian Sea	12 30 0 N	54 10 0 E
Soderhamn	Sweden	61 17 47 N	17 5 30 E
Soissons	France	49 22 52 N	3 19 37 E
Solidad Port	Falkland Is.	51 31 30 S	58 5 15 W
Soliman Port	Barbary	31 46 15 N	25 7 30 E
Solomon Cape	Candia	35 9 15 N	26 19 25 E
Sombrero Isle	Caribbee Is.	18 38 0 N	63 25 0 W
Sonderburg	Denmark	54 54 59 N	9 47 13 E
Sondershausen	Germany	51 22 33 N	10 50 21 E
Sooloo Isle	Ind. Archip.	6 1 0 N	121 12 0 E

Names of Places.	Country, &c.	Latitude.	Longitude.
		° ′ ″	° ′ ″
Sorsogan Port	Luconia	12 52 0 N	123 50 0 E
Sourabaya	Java	7 14 23 S	112 41 30 E
South Cape	N. Zealand	47 16 50 S	167 20 9 E
South Cape	V. Diemen's Land	43 37 0 S	146 49 0 E
South Isle	Pacif. Ocean	31 30 0 N	140 0 0 E
Southampton Isle	Hudson's Bay	62 57 0 N	82 0 0 W
Southampton Spire	England	50 54 0 N	1 23 56 W
Southerness Point	Scotland	54 52 30 N	3 34 53 W
Spartel Cape	Barbary	35 48 30 N	5 55 0 W
Spartivento Cape	Italy	37 55 50 N	16 3 35 E
Specia	Italy	44 4 0 N	9 51 0 E
Spencer's Bay	W. Coast of Africa	25 48 0 S	15 8 0 E
Spencer Cape	N. Holland	35 18 0 S	136 53 0 E
Spire	Germany	49 18 51 N	8 26 16 E
Spoletta	Italy	42 44 50 N	12 35 46 E
Stade	Germany	53 36 32 N	9 28 34 E
Staples (East) Lighthouse	England	55 38 9 N	1 37 5 W
Start Point, Flagstaff	England	50 13 26 N	3 38 21 W
Stavanger	Norway	58 58 30 N	5 45 0 E
Stephen's Cape	NW. Coast of Amer.	63 33 30 N	162 17 0 W
Stickhausen	Germany	53 13 10 N	7 37 8 E
Stockholm	Sweden	59 20 31 N	18 3 30 E
Stolberg	Germany	51 35 0 N	10 56 53 E
Strabane	Ireland	54 49 29 N	7 23 5 W
Stralsund	Germany	54 19 0 N	13 32 15 E
Strasburg	France	48 34 56 N	7 44 51 E
Stromboli I. St. Bartolo	Mediterranean	38 48 20 N	15 12 30 E
Stromness	Orkneys	58 56 0 N	3 31 4 W
Stromstadt	Sweden	58 55 30 N	11 12 0 E
Stuttgard	Germany	48 46 15 N	9 11 0 E
Suakim	Nubia	19 5 0 N	37 33 0 E
Success Cape	Tierra del Fuego	55 0 0 S	65 19 0 W
Suez	Egypt	30 0 30 N	32 28 0 E
Sulphur Isle	Chinese Sea	27 52 0 N	128 22 0 E
Sunderland Lighthouse	England	54 55 12 N	1 21 16 W
Sundswall	Sweden	62 22 30 N	17 16 30 E
Surat River	India	21 4 0 N	72 51 0 E
Swan River (Perth)	N. Holland	31 50 0 S	115 50 0 E
Swansea Cas.	Wales	51 37 13 N	3 55 32 W
Sweetnose Cape	Russia in Europe	68 12 0 N	39 46 0 E
Syene	Egypt	24 5 23 N	32 54 34 E
Syra, Isle, P't	Archipelago	37 26 0 N	24 55 0 E
Syracuse Lighthouse	Sicily	37 2 58 N	15 16 10 E
Tacuba	Mexico	19 31 0 N	99 7 45 W
Taganrog	Russia in Europe	47 12 40 N	38 39 0 E
Tallahassee	Flor.	30 28 0 N	84 36 0 W
Tambow	Russia in Europe	52 43 44 N	41 45 15 E
Tanna Isle, Port Resolution	New Hebrides	19 32 25 S	169 20 11 E
Taormina Telegraph	Sicily	37 48 15 N	15 17 40 E
Tara	Russia in Asia	56 54 31 N	74 5 18 E
Tarbes	France	43 13 52 N	0 4 14 E
Tariffa Isle	Spain	36 0 30 N	5 35 15 W
Tarragona	Spain	41 8 50 N	1 15 30 E
Tarsus	Turk. in As.	37 1 0 N	34 52 0 E
Tavastehus	Russia in Europe	61 3 0 N	24 26 30 E
Tedeles Cape	Barbary	36 57 0 N	4 14 3 E
Tecklenburg	Germany	52 13 28 N	7 47 25 E
Tellicherry	India	11 44 0 N	75 49 30 E
Tenby Spire	Wales	51 40 20 N	4 40 52 W
Ten-choo-foo	China	37 46 0 N	120 53 0 E
Tenedos Isle	Archipelago	39 51 0 N	25 53 0 E
Teneriffe Isle, the Peak	Canary Isles	28 17 0 N	16 39 45 W
Tercera Isle, Angra	Azores	38 39 0 N	27 14 0 W
Ternate Isle	Ind. Archip.	0 50 0 N	127 32 0 E
Ternay Bay	Tartary	45 10 32 N	137 1 15 E
Terracina	Italy	41 18 14 N	13 13 22 E
Terra Nova Column	Sicily	37 2 36 N	14 15 40 E
Tezcuco	Mexico	19 30 40 N	98 51 0 W
Thadæus (St.) Noss	Russia in Asia	62 50 0 N	179 5 0 E
Thebes Ruins	Egypt	25 43 0 N	32 39 21 E
Thomas, St. I.	Caribbee Is.	18 20 0 N	65 3 0 W
Three Points Cape	Patagonia	49 46 0 S	75 46 15 W
Three Points Cape	W. Coast of Africa	4 55 0 N	2 2 0 W
Thule (South) Cape	Sandwich Land	59 34 0 S	27 45 0 W
Tiburon Cape	Hayti	18 19 25 N	74 20 0 W
Timor Isle, Coupang	Indian Archipelago	10 10 0 S	123 36 0 E
Timor Isle, Delhi	Indian Archipelago	8 35 0 S	125 40 0 E
Timor Laut I. S. Point	Indian Archipelago	8 15 0 S	131 50 0 E
Tinian Isle	Ladrones	14 58 0 N	145 51 15 E
Tobago Isle	Caribbee Is.	11 10 0 N	60 27 0 W
Tobolsk	Russia in Asia	58 11 42 N	68 6 15 E
Toluca	Mexico	19 16 19 N	99 21 30 W
Tomsk	Russia in Asia	56 29 38 N	85 9 51 E
Tongatabou I.	Friendly Is.	21 8 0 S	175 13 0 W
Tongres	Germany	50 47 7 N	5 27 38 E
Tonningen	Denmark	54 19 25 N	8 58 45 E
Tooboonai Isle	Pacif. Ocean	23 25 0 S	149 20 30 W
Tor Harbour	Arabia	28 19 0 N	33 28 0 E
Tornea	Sweden	65 50 50 N	24 12 15 E
Toronto	U. C.	43 33 0 N	79 20 0 W
Tortona	Italy	44 53 26 N	8 56 32 E
Tortosa	Spain	40 48 46 N	0 33 0 E
Tortuga Isle	Caribbee Sea	10 59 0 N	65 34 0 W
Toul	France	48 40 32 N	5 53 16 E
Toulon	France	43 7 9 N	5 55 41 E
Toulouse	France	43 35 46 N	1 26 30 E
Tournay	Belgium	50 36 20 N	3 23 17 E
Tours	France	47 23 46 N	0 41 38 E
Trafalgar C.	Spain	36 10 15 N	6 0 0 W
Tranquebar	India	11 1 30 N	79 55 0 E
Trapani	Sicily	38 3 0 N	12 30 0 E
Travemunde	Germany	53 57 46 N	10 51 40 E
Trebizond	Turkey in Asia	41 2 41 N	39 28 0 E
Trent	Germany	46 6 26 N	11 3 45 E
Trenton	N. J.	40 14 0 N	74 30 0 W
Treves	Germany	49 46 37 N	6 38 20 E
Trieste	Illyria	45 38 8 N	13 47 8 E
Trincomaleo Bay	Ceylon	8 33 0 N	81 22 0 E
Trinidad	Cuba	21 48 20 N	80 0 52 W
Trinidad Isle	Atl. Ocean	20 32 30 N	29 11 0 W
Trinidad Isle, Port Spain	Caribbee Isles	10 38 42 N	61 34 0 W
Tripoli	Barbary	32 53 40 N	13 11 33 E
Tripoli	Syria	34 26 25 N	35 51 28 E
Tristan d'Acunha I.	Atlantic Ocean	37 5 36 S	12 7 0 W
Triton Isle	Chinese Sea	15 46 0 N	111 11 0 E
Troyes	France	48 18 5 N	4 4 49 E
Truxillo	Mexico	15 51 0 N	86 7 0 W
Truxillo	Peru	8 6 9 S	79 3 22 W
Tscherkask	Russia in Europe	47 13 34 N	39 23 15 E
Tschirikoff Cape	Japan	32 14 15 N	131 41 30 E
Tschitschagoff Cape	Japan	30 56 45 N	130 36 30 E
Tschukotskoi Noss	Russia in Asia	64 14 30 N	173 31 0 E
Tso-Choui	Corea	35 30 0 N	129 16 7 E
Tsus-Sima Is.	Japan	34 40 0 N	129 27 0 E
Tubingen	Germany	48 31 10 N	9 3 35 E
Tula	Russia in Europe	54 11 40 N	37 1 6 E
Tunbridge	England	51 11 52 N	0 17 2 E
Tunis, Fondouc	Barbary	36 47 59 N	10 11 15 E
Turin, Piazza Castello	Italy	45 4 0 N	7 40 15 E
Turnagain Cape	N. Coast of America	68 18 5 N	109 25 0 W
Turon Cape	Coch. China	16 8 30 N	108 17 0 E
Tuscaloosa	Ala.	33 12 0 N	87 42 0 W
Tver	Russia in Europe	56 51 44 N	35 57 23 E
Tynemouth Lighthouse	England	55 1 21 N	1 24 31 W
Uddevalla	Sweden	58 21 15 N	11 56 30 E
Udine	Italy	46 3 14 N	13 15 2 E

Names of Places.	Country, &c.	Latitude.	Longitude.
		° ′ ″	° ′ ″
Uffa	Russia in Asia	54 42 45 N	55 53 45 E
Ulm	Germany	48 23 20 N	9 59 6 E
Umbas	Russia in Europe	66 44 30 N	34 13 0 E
Umea	Sweden	66 4 0 N	20 22 30 E
Unst Isle	Shetland	60 44 0 N	0 45 45 W
Unticfen Cape	Sachalin	52 32 30 N	143 14 30 E
Upsal	Sweden	59 51 50 N	17 39 0 E
Urals	Russia in Asia	51 11 0 N	51 35 30 E
Uraniburg	Denmark	55 54 38 N	12 42 59 E
Urbino	Italy	43 43 36 N	12 37 5 E
Ushant Isles	France	48 28 8 N	5 3 6 W
Utika	N. Y.	43 6 49 N	75 13 0 W
Utrecht	Holland	52 5 31 N	5 7 16 E
Uzes	France	44 0 45 N	4 25 17 E
Vabres	France	43 56 27 N	2 50 31 E
Vaison	France	44 14 28 N	5 4 9 E
Valdivia	Chili	39 59 0 S	73 34 0 W
Valence	France	44 55 59 N	4 53 25 E
Valencia	Spain	39 28 45 N	0 23 3 W
Valery-sur-Somme (St.)	France	50 11 21 N	1 37 51 E
Valladolid	Mexico	19 42 0 N	100 52 0 W
Valona	Turkey in Europe	40 28 20 N	19 25 45 E
Valparaiso	Chili	33 0 30 S	71 38 15 W
Vandalia	Ill.	38 50 0 N	89 2 0 W
Vanderlin C.	N. Holland	15 35 0 S	137 9 0 E
Vannes	France	47 39 26 N	2 45 4 W
Vavao Isle	Pacif. Ocean	18 33 54 S	173 59 45 W
Venice, St. Mark's	Italy	45 25 32 N	12 20 59 E
Venloo	Germany	51 22 17 N	6 10 31 E
Vera-Cruz	Mexico	19 11 52 N	96 8 45 W
Verd Cape	W. Coast of Africa	14 43 45 N	17 30 30 W
Verden	Germany	52 55 37 N	9 12 47 E
Verdun	France	49 9 31 N	5 22 17 E
Verona Observatory	Italy	45 26 7 N	11 1 15 E
Versailles	France	48 48 21 N	2 7 22 E
Vianna	Portugal	41 42 36 N	8 43 30 W
Vicenza	Italy	45 31 40 N	11 33 24 E
Vienna	Germany	48 12 40 N	16 22 45 E
Vienne	France	45 32 57 N	4 53 39 E
Vigevano	Italy	45 18 54 N	8 52 1 E
Vigo	Spain	42 13 20 N	8 33 30 W
Villach	Germany	46 35 0 N	13 52 15 E
Villa de Condé	Portugal	41 21 18 N	8 35 54 W
Villa del Pao	Colombia	8 38 1 N	64 48 0 W
Villa-França	Italy	43 40 20 N	7 19 30 E
Villalpando	Spain	41 51 10 N	5 24 16 W
Vincennes	Ind.	38 43 0 N	87 35 0 W
Vincent (St.) Cape	Portugal	37 2 54 N	8 59 36 W
Vincent, St. I.	Caribbee Is.	13 11 0 N	61 16 0 W
Virgin-Gorda Isle, E. Cape	Caribbee Is.	18 31 7 N	64 25 24 W
Virgins Cape	Patagonia	52 21 0 S	68 17 25 W
Vito (St.) Cape	Sicily	38 11 50 N	12 46 15 E
Viviers Observatory	France	44 29 14 N	4 41 0 E
Vizagapatam	India	17 42 30 N	83 26 0 E
Voghera	Italy	44 59 21 N	9 1 25 E
Volcano Bay	Jesso	42 19 0 N	141 8 0 E
Volcano Isle	Japan	30 43 0 N	130 16 40 E
Volcano Isle	New Britain	5 32 20 S	148 4 15 E
Volcano Isle	Pacif. Ocean	10 25 12 S	165 48 21 E
Vologda	Russia in Europe	59 13 30 N	40 11 15 E
Volthoen's Is.	Indian Archipelago	5 58 0 S	124 48 0 E
Voronetz	Russia in Europe	51 40 30 N	39 21 30 E
Wakefield Spire	England	53 41 2 N	1 29 24 W
Waldeck	Prussia	51 12 43 N	9 1 32 E
Walden I.	Polar Sea	80 35 38 N	19 51 16 W
Wallis's Isle	Pacif. Ocean	13 18 0 S	177 21 45 W
Walsingham Cape	Cumberland Isle	66 4 0 N	60 51 0 W
Wangeroog I. Lighthouse	Germany	53 48 26 N	7 52 35 E
Warasdin	Germany	46 18 18 N	16 26 6 E
Wardhuus	Lapland	70 22 36 N	31 7 0 E
Warmensdorf	Germany	51 17 13 N	12 56 7 E
Warrington Steeple	England	53 23 30 N	2 33 11 W
Warsaw	Russia in Europe	52 14 28 N	21 2 45 E
Washington	D. C.	38 52 54 N	77 1 48 W
Wateeoo Isle	Pacif. Ocean	20 1 30 S	158 14 30 W
Weimar	Germany	50 59 12 N	11 21 0 E
Werningerode	Germany	51 50 34 N	10 47 28 E
Wesel	Germany	51 39 17 N	6 37 8 E
Weymouth Cape	N. Holland	12 39 0 S	143 18 0 E
Whitehaven Windmill	England	54 32 50 N	3 34 56 W
Whyda, British Factory	W. Coast of Africa	6 18 0 N	2 34 0 E
Wiborg	Denmark	56 27 11 N	9 26 20 E
Wiborg	Russia in Europe	60 42 40 N	28 46 5 E
Wicklow Lighthouse	Ireland	52 58 22 N	6 0 21 W
Wilmington	Del.	39 41 0 N	75 28 0 W
Wilmington	N. C.	34 11 0 N	78 10 0 W
Wilna	Russia in Europe	54 41 2 N	25 18 0 E
Winchelsea Steeple	England	50 55 28 N	0 42 31 E
Winchester Cathedral	England	51 3 40 N	1 18 26 W
Windsor Cas.	England	51 29 0 N	0 35 28 W
Winga Beac.	Sweden	57 38 12 N	11 38 0 E
Winter Island	Hudson's Bay	66 11 24 N	83 9 49 W
Winter Harb.	Melville I. Polar Sea	74 47 18 N	110 31 35 W
Wisby	Sweden	57 39 15 N	18 26 30 E
Wittenberg	Germany	51 52 39 N	12 45 44 E
Woahoo Isle	Sandwich Is.	21 40 30 N	158 1 5 W
Wolfenbuttle	Germany	52 8 44 N	10 31 54 E
Woody Point	W. Coast of Amer.	50 0 3 N	127 57 0 W
Woolverhampton Sp.	England	52 34 54 N	2 7 10 W
Workington Chapel	England	54 38 34 N	3 33 30 W
Worms	Germany	40 37 49 N	8 21 12 E
Worm's Head	Wales	51 33 56 N	4 18 56 W
Wrekin Mountain	England	52 40 11 N	2 31 30 W
Wurtzburg	Germany	49 46 6 N	9 55 30 E
Wushnei-Wolotschok	Russia in Europe	57 35 12 N	34 41 0 E
Xalappa	Mexico	19 30 8 N	96 54 39 W
Xam-hay	China	31 16 0 N	121 32 0 E
Yap Isle	Pacif. Ocean	9 35 0 N	138 8 0 E
York (New)	N. Y.	40 42 40 N	74 1 8 W
York Cape	Greenland	75 56 0 N	66 39 0 W
York, Fort	New Wales	57 1 48 N	92 34 45 W
York Minster	England	53 57 48 N	1 4 34 W
Ypres	Belgium	50 51 10 N	2 53 4 E
Ysselburg	Germany	51 50 29 N	6 26 22 E
Ystad	Sweden	55 25 31 N	13 48 30 E
Zacheo Isle	Porto Rico	18 23 48 N	67 34 1 W
Zante Isle, the Town	Mediterranean	37 47 17 N	20 54 42 E
Zanzibar Road	E. Coast of Africa	6 6 0 S	39 33 0 E
Zarizin	Russia in Europe	48 42 20 N	44 27 45 E
Zirbi Isle, the Town	Barbary	33 54 10 N	10 53 25 E
Znaim	Germany	48 51 15 N	16 1 57 E
Zumpango	Mexico	19 46 52 N	99 3 45 W
Zurich	Switzerland	47 22 33 N	8 31 30 E
Zuriksee	Holland	51 39 4 N	3 54 59 E
Zutphen	Holland	52 8 26 N	6 11 52 E

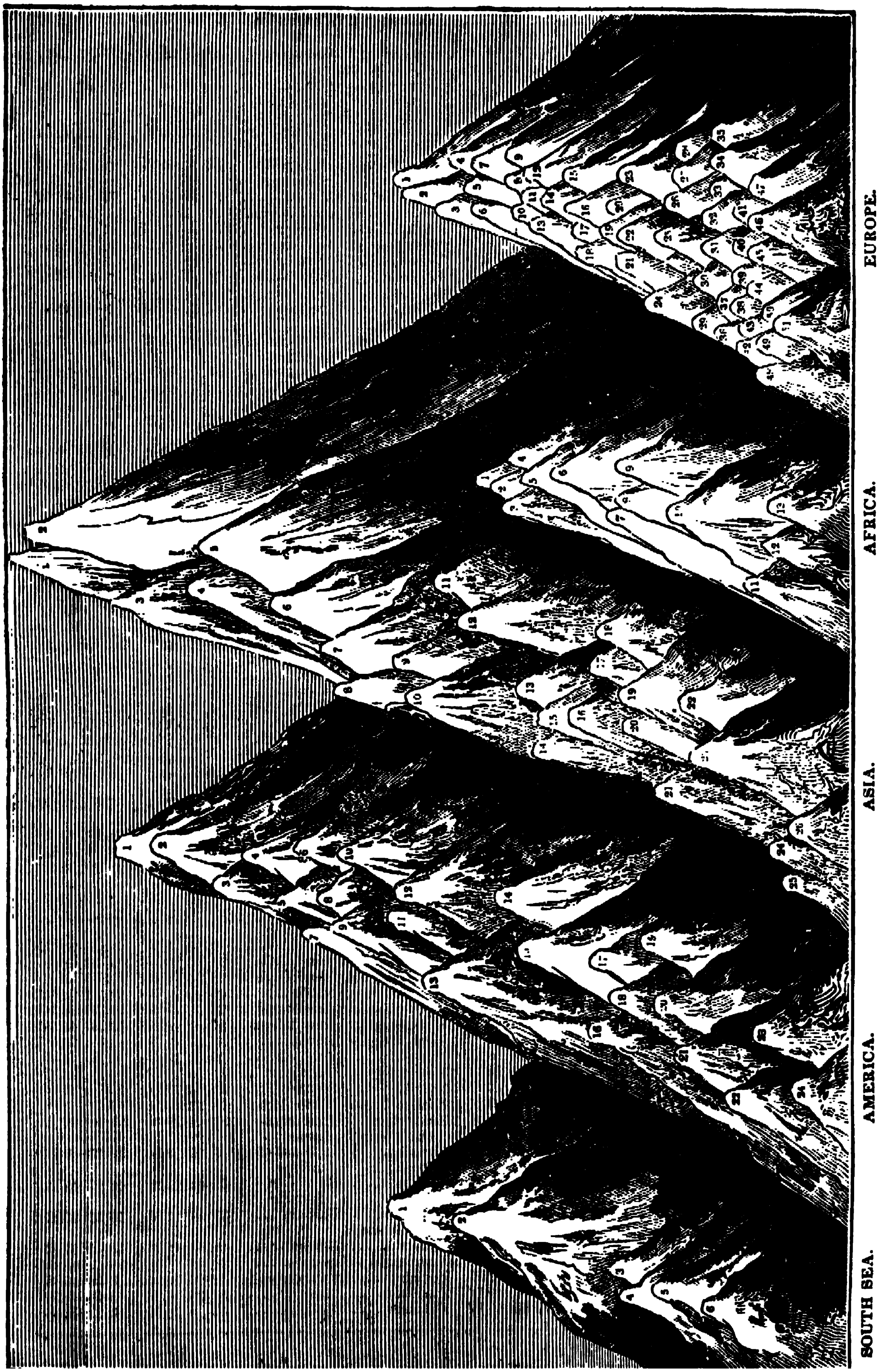

SOUTH SEA.
AMERICA.
ASIA.
AFRICA.
EUROPE.

TABLE
OF
THE HEIGHT OF THE PRINCIPAL MOUNTAINS ON THE GLOBE.

EUROPE.

		Engli Feet.
1.	Mont Blanc, Alps	15,668
2.	Monte Rosa, Alps	15,527
3.	Finster Aarhorn, Alps	14,325
4.	Jungfrau, Alps	13,730
5.	Schreckhorn, Alps	13,310
6.	Oertler Spitze, Alps	13,065
7.	Gross Glockner, Alps	12,980
8.	Simplon, Alps	11,730
9.	Mulhacen, Sierra Nevada	11,678
10.	Maladetta, Pyrenees	11,430
11.	Mont Perdu, Pyrenees	11,275
12.	Penaranda, Asturias	11,200
13.	Etna, Sicily	10,870
14.	St. Gothard, Alps	10,605
15.	Ruska, Carpathians	9,912
16.	Mount Cénis, Alps	9,650
17.	Little St. Bernard, Alps	9,600
18.	Monte Corno, Apennines	9,523
19.	Kanigou, Pyrenees	8,800
20.	Skagtlos Find, Dofrines	8,400
21.	Sneehütta, Dofrines	8,122
22.	Lomnitz, Carpathians	7,962
23.	Taygetus, Greece	7,950
24.	Olympus, Turkey	6,650
25.	Mont d'Or, Auvergne	6,470
26.	Cantal, Auvergne	6,350
27.	Mezène, Cevennes	5,920
28.	Parnassus, Greece	5,850
29.	Ossa, Turkey	5,840
30.	Kiesen Koppe, Sudetes	5,350
31.	Pelion, Greece	5,200
32.	Hecla, Iceland	5,010
33.	Lozère, Cevennes	4,930
34.	Puy de Dôme, Auvergne	4,890
35.	Feldberg, Black Forest	4,750
36.	Haydelberg, Bohemian Forest	4,690
37.	Helicon, Greece	4,550
38.	Ben Nevis, Grampians	4,379
39.	Ben Lawers, Grampians	4,051
40.	Cairngorm, Grampians	4,050
41.	Vesuvius, Italy	3,932
42.	Keilberg, Erzgebirge	3,910
43.	Schneeberg, Fichtelgebirge	3,600
44.	Brocken, Hartz	3,730
45.	Snowdon, Wales	3,568
46.	Schehallien, Grampians	3,564
47.	Cader Idris, Wales	3,550
48.	Macgillicuddy's Reeks, Ireland	3,404
49.	Ben Lomond, Grampians	3,262
50.	Schneekopp, Thuringian Forest	3,220
51.	Skiddaw, England	3,022
52.	Ingleborough, England	2,361
53.	North Cape, Lapland	1,300

ASIA.

		English Feet.
1.	Chumularee, Himalayah	29,000
2.	Dhawalagiri, Himalayah	28,500
3.	Javaher, Himalayah	25,800
4.	Rudra, Himalayah	23,000
5.	Jamautri, Himalayah	22,500
6.	Highest Peak of Hindoo Coosh	20,000
7.	Elburz, Caucasus	18,350
8.	Ararat, Great, Armenia	17,700
9.	Kazbek, Caucasus	15,800
10.	Gounong Pasumbra, Sumatra	15,270
11.	Gounong Pasaman, or Ophir Sumatra	14,160
12.	Ararat, Little, Armenia	13,500
13.	Alas Tag, Altaï	11,520
14.	Highest Peak of Lebanon	11,050
15.	Italitzkoi, Altaï	10,900
16.	Awatcha, Kamtschatka	9,750
17.	Olympus, Asia Minor	9,100
18.	Highest Peak of Nilgherries	8,835
19.	Sinai, Arabia	7,952
20.	Takhtalou, Taurus	7,715
21.	Adam's Peak, Ceylon	6,650
22.	Sabramani, Ghauts	5,750
23.	Ida, Asia Minor	5,435
24.	Chaizgour, Vindhya	2,700
25.	Carmel, Palestine	2,250
26.	Tabor, Palestine	2,053

AFRICA.

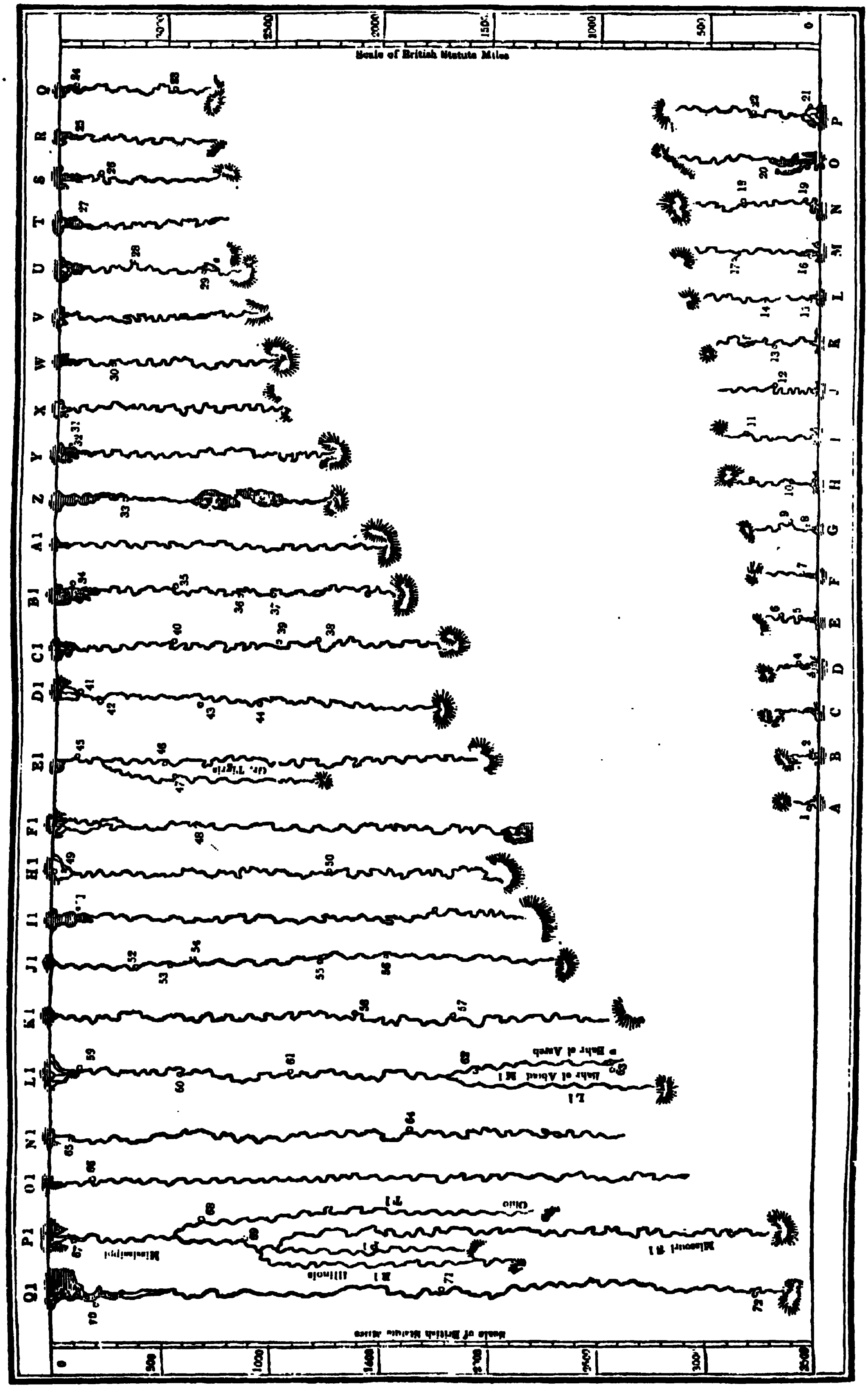
1.	Highest Peak of Cameroons	13,000
2.	Peak of Teneriffe	12,176
3.	Bernard, Bourbon Isles	12,100
4.	Highest Peak of Atlas	11,900
5.	Lamalmon, Abyssinia	11,300
6.	Compass, Sneuwberg, Africa	10,250
7.	Komberg, S. Africa	8,330
8.	Fogo, Cape de Verd Islands	8,100
9.	Taranta, Abyssinia	7,980
10.	Pico Ruivo, Madeira	6,233
11.	Table Mountain, Africa	3,582
12.	Piter Boot, Mauritius	2,790
13.	Diana's Peak, St. Helena	2,710

AMERICA.

1.	Sorata, Andes	25,400
2.	Illimani, Andes	24,200
3.	Gualatieri, Andes	22,000
4.	Chimborazo, Andes	21,000
5.	Cayambe, Andes	19,633
6.	Antisana, Andes	19,136
7.	Cotopaxi, Andes	18,867
8.	Tolima, Andes	18,436
9.	Mount St. Elias, North America	18,000
0.	Popocatepetl, Mexican Cordillera	17,780
1.	Pinchincha, Andes	15,931
2.	Iztaccihuatl, Mexican Cordillera	15,705
3.	Mount Fairweather, North America	14,736
4.	Cofre de Perote, Mexican Cordillera	13,275
5.	James's Peak, Rocky Mountains	11,500
6.	Sierra de Cobre, Cuba	9,000
7.	Grand Serrania, Hayti	9,000
8.	Duida, Parime	8,250
9.	Highest Peak of Blue Mountains, Jamaica	7,278
20.	Mount Washington, Alleghanies	6,650
21.	Mount Sarmiento, Straits of Magellan	6,000
22.	Mount Otter, Alleghanies	4,250
23.	Kaatskill, Alleghanies	3,150
24.	Cape Horn, South America	1,860

SOUTH SEA.

1.	Mouna Roa, Sandwich Isles	15,980
2.	Mouna Koa, Sandwich Isles	13,800
3.	Oronco, Otaheite	8,350
4.	Egmont Peak, New Zealand	8,150
5.	Sea-View Hill, Blue Mountains, New South Wales	6,700
6.	Highest Peak of Barren Mountains, Van Diemen's Land	5,000


Scale of British Statute Miles
0
500
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2500
3000
A
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B1
C1
D1
E1
F1
H1
I1
J1
K1
L1
N1
O1
P1
Q1
Gr. Tigris
Bahr el Abiad M1
Bahr el Azrek
L1
Ohio
T1
Mississippi
Missouri R1
Illinois
R1
S1

COMPARATIVE LENGTH OF THE PRINCIPAL RIVERS.

References.	Names.	Mouth.	Course.	Source.	Length in Miles.
A.	Forth	North Sea	Scotland	Ben Lomond Mountain	115
B.	Tay	North Sea	Scotland	Grampian Hills	120
C.	Trent	North Sea	England	Staffordshire	125
D.	Shannon	Atlantic Ocean	Ireland	Mountains of Leitrim	200
E.	Thames	North Sea	England	Cotswold Hills	215
F.	Severn	Bristol Channel	England and Wales	Plinlimmon Mountain	220
G.	Hudson	Atlantic Ocean	North America	State of New York	320
H.	Ebro	Mediterranean Sea	Spain	Mountains of Asturias	380
I.	Po	Adriatic Sea	Italy	Monte Viso	410
J.	Seine	English Channel	France	Côte d'Or Mountains	425
K.	Rhone	Mediterranean Sea	Switzerland and France	Mount Furca	460
L.	Loire	Bay of Biscay	France	Mont Gerbier	545
M.	Tagus	Atlantic Ocean	Spain and Portugal	Sierra Morena	550
N.	Oder	Baltic Sea	Austria and Prussia	Carpathian Mountains	580
O.	Susquehanna	Atlantic Ocean	United States	Alleghany Mountains	620
P.	Vistula	Baltic Sea	Austria and Prussia	Carpathian Mountains	640
Q.	Elbe	North Sea	Austria, Germany, and Prussia	Sudetic or Giant Mountains	670
R.	Gambia	Atlantic Ocean	Africa	Heights of Foota Jallo	700
S.	Dniester	Black Sea	Austria and Turkey	Carpathian Mountains	710
T.	Dwina	White Sea	Russia	Heights of Vologda	750
U.	Rhine	North Sea	France, Germany, and Holland	Mount St. Gothard	810
V.	Columbia	Pacific Ocean	North America	Rocky Mountains	910
W.	Senegal	Atlantic Ocean	Africa	Heights of Foota Jallo	950
X.	Don	Sea of Azof	Russia	Toula	1020
Y.	Dnieper	Black Sea	Russia	Heights of Smolensk	1140
Z.	St. Lawrence	Atlantic Ocean	North America	Upper Canada	1320
A. 1	Orinoco	Atlantic Ocean	South America	Sierra de Parime	1480
B. 1	Ganges	Bengal Bay	Hindostan	Himalayah Mountains	1550
C. 1	Danube	Black Sea	Germany, Austria, and Turkey	Black Forest	1760
D. 1	Indus	Indian Ocean	Hindostan	Himalayah Mountains	1770
E. 1	Euphrates	Persian Gulf	Turkey in Asia	Mountains of Armenia	1900
F. 1	Tigris	Euphrates	Turkey in Asia	Mountains of Armenia	950
G. 1	Mackenzie	Arctic Ocean	North America	Rocky Mountains	1920
H. 1	Volga	Caspian Sea	Russia	Heights of Valdai	2040
I. 1	La Plata	Atlantic Ocean	South America	Heights of Itambe	2130
J. 1	Niger	Gulf of Guinea	Africa	Mountains of Loma	2300
K. 1	Obi	Arctic Ocean	Chinese Tartary and Russia	Altaï Mountains	2550
L. 1	Nile	Mediterranean Sea	Nubia and Egypt	Donga Mountains	2610
M. 1	Bahr el Azrek	Nile	Abyssinia and Nubia	Lake Dembea	800
N. 1	Hoang-Ho	Pacific Ocean	Thibet and China	Desert of Cobi	2630
O. 1	Yang-tse-kiang	Pacific Ocean	Thibet and China	Desert of Cobi	2990
P. 1	Mississippi	Gulf of Mexico	North America	Leech Lake	3000
Q. 1	Marañon	Atlantic Ocean	South America	Heights of Cicacica	3380
R. 1	Illinois	Mississippi River	North America	State of Illinois	400
S. 1	Missouri	Mississippi River	North America	Rocky Mountains	3217
T. 1	Ohio	Mississippi River	North America	Alleghany Mountains	945

REFERENCE TO THE TOWNS

1. Edinburgh
2. Dundee
3. Nottingham
4. Limerick
5. London
6. Oxford
7. Gloucester
8. New York
9. Hudson
10. Saragossa
11. Turin
12. Paris
13. Lyons
14. Orleans
15. Nantes
16. Lisbon
17. Madrid
18. Breslau
19. Stettin
20. Washington
21. Dantzig
22. Warsaw
23. Dresden
24. Hamburg
25. Jillifrey
26. Bender
27. Archangel
28. Frankfort
29. Constance
30. Faribe
31. Azof
32. Cherson
33. Quebec
34. Calcutta
35. Bahar
36. Benares
37. Allahabad
38. Vienna
39. Buda
40. Widin
41. Tatta
42. Hyderabad
43. Moultan
44. Attock
45. Bassoria
46. Babylon
47. Bagdad
48. Fort Good Hope
49. Astrachan
50. Novogorod
51. Buenos Ayres
52. Rabba
53. Eboe
54. Boussa
55. Timbuctoo
56. Sego
57. Kholyvan
58. Narim
59. Cairo
60. Thebes
61. Dongola
62. Sennaar
63. Gondar
64. Lantchoou
65. Houin-ganfou
66. Nankin
67. New Orleans
68. Louisville
69. New Madrid
70. Macapa
71. Olivença
72. La Paz.

REFERENCE TO THE LAKES.

a. Dembea
b. Great Slave Lake
c. Erie
d. Ontario.
e. Constance
f. Lake Leman or Geneva.

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CHAPTER V.

BARBARY.

Barbary is that long line of territory, from 100 to 200 miles in depth, which extends westward from Egypt to the shores of the Atlantic. The name, though familiar with Europeans, and derived from the Berbers, a race of native inhabitants, does not appear to be recognised in the country itself; and the region is even occupied by different independent states; yet such is the similarity both as to nature and the condition and aspect of the inhabitants, that they may very advantageously be considered under one head.

Sect. I.—*General Outline and Aspect.*

The level plain, which composes the greater part of Barbary, resembles in surface and quality that immense ocean of sand which overspreads nearly the whole northern half of the African continent. Barbary, however, derives a distinctive and superior character from that mountain-chain, or series of chains, which, under the celebrated name of Atlas, ranges through nearly its whole extent from west to east. The loftiest pinnacles are in the west, rising above the plain of Morocco, and facing the Atlantic, where it appears even to rise above the limit of perpetual snow; but beyond the frontier of Morocco, and eastward through Algiers and Tunis, the mountains of this chain seldom exceed 3000 or 4000 feet. On the territory of Tripoli, they sink into lower eminences, and gradually subside to that flat sterile surface which characterises Northern Africa. The aspect of the Libyan desert, which separates Tripoli from Egypt, is compared by travellers to that of the bottom of the sea after its waves have receded. The breadth of the plain between the mountains and the Mediterranean, which constitutes Barbary, nowhere exceeds 100 miles, and in many places is not more than five or six; its average breadth may be estimated at about fifty or sixty miles. On the southern side of the mountains is another plain of vast and vague extent, stretching indefinitely to the south. This tract, which possesses naturally the same dry and desert character as the bordering regions, derives, from the streams poured down by the Atlas, a certain degree of fertility, which continues to the places where these are absorbed in the sands, or expanded into lakes. This region forms a loose appendage to Barbary, being inhabited by tribes in some sense tributary and dependent, though they are generally accustomed to rove with little control over their spacious plains.

The plain of Barbary is watered by numerous rivers descending from the great mountain range; but, on account of the short interval which interposes between it and the sea, they cannot have any long course. None of them can be considered as general features of the region; their character is local, and will be described under the local head. The same may be said of the less known streams poured from the southern declivity of Atlas, though these roll a somewhat longer course, till they are absorbed in the sandy waste.

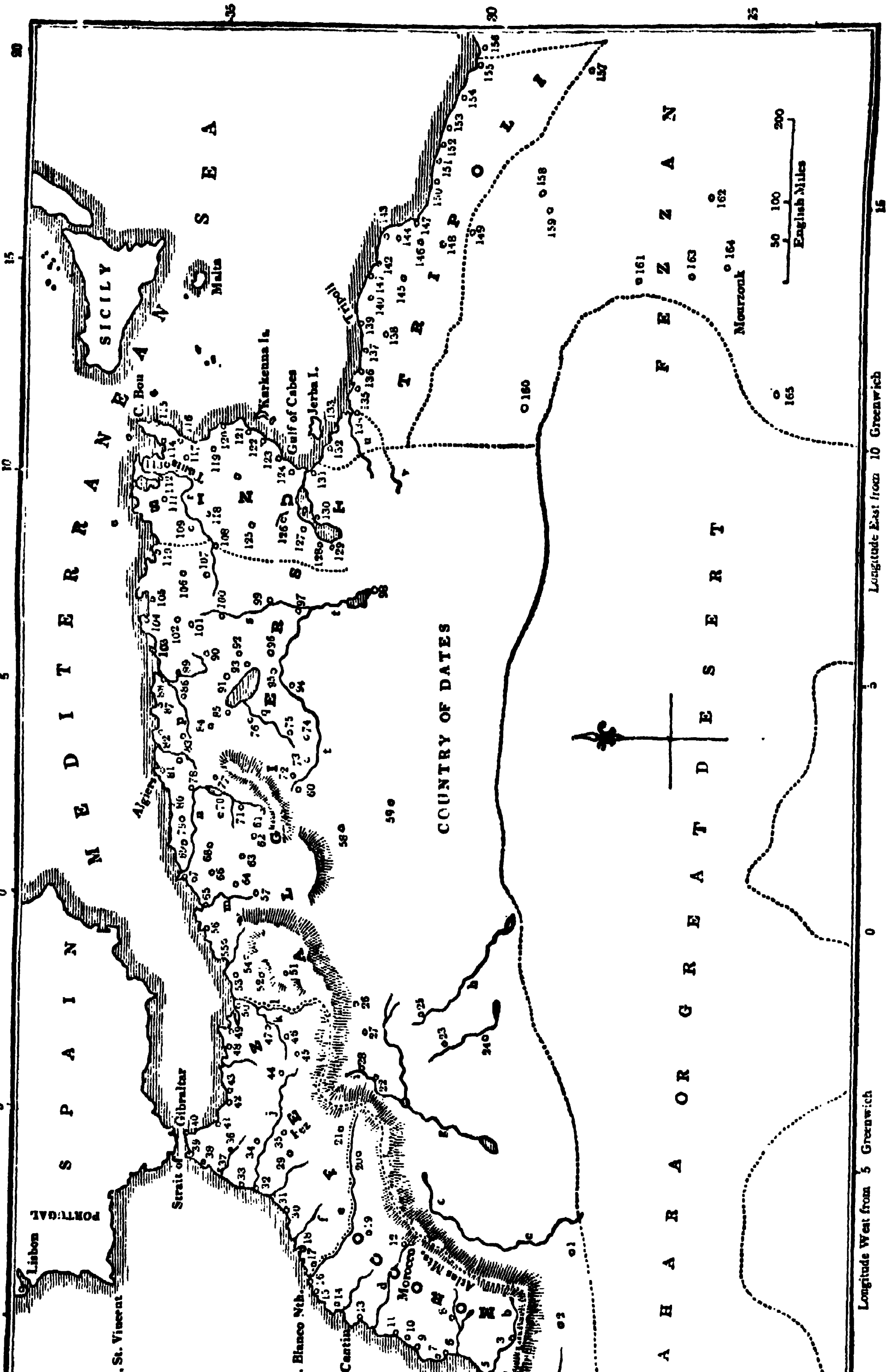
The limits of this vast region, especially on the land side, where it passes by an insensible gradation into the trackless deserts, cannot be easily defined. It would be difficult even to fix the extreme points of Tripoli and Morocco. Port Bomba, on the eastern frontier of Tripoli, is in 23° 20′ E., while Mogadore, nearly the most western part of Morocco, is in 9° 20′ W., forming thus a line of 33° of longitude, or about 2000 miles from east to west. Of its northern boundary along the Mediterranean, the highest point is Cape Blanco in Tunis, in latitude 37°, whence it declines in Morocco to 35°, and in the Gulf of Sidra even to nearly 30°. The southern boundary is altogether of that vague and indefinite nature already described.

Sect. II.—*Natural Geography.*

Subsect. 1.—*Geology.*

Atlas, or northern region of Africa.—This interesting division of Africa is characterised by the Atlas range of mountains, some of the summits of which rise to a height of 13,000 feet above the sea. The central and higher chains are composed of granite, gneiss, mica slate, and clay slate; while resting upon and forming the lower ranges are extensive deposits

MAP OF BARBARY, OR NORTHERN AFRICA. FIG. 806.



of secondary limestones and sandstones. The limestone abounds with organic remains, as shells, corals, and even fishes, and is said to be referable to the various limestones of the secondary class, extending from the lias, or even the magnesian limestone, to chalk inclusive. Resting upon these limestones are deposits of tertiary rocks. Salt springs and gypsum are mentioned as occurring in different parts of the range. The secondary and tertiary formations are variously changed and upraised by trap rocks of modern date.

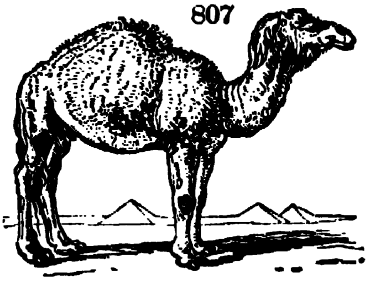
SUBSECT. 2.—*Botany.*

The Botany of this country has been described with that of Egypt, page 537, vol. ii.

SUBSECT. 3.—*Zoology.*

The Zoology of the Barbary states assimilates with that of northern Egypt, Arabia, and Asia Minor; and requires, therefore, but a slight notice. The quadrupeds, as may be expected, differ materially from those which are known as inhabitants of Europe, as will be better seen from the following list:—

Cyanocephalus Babouin.	Little Baboon.
Felis Pardus.	Panther.
Lynx Caracol. *Sw.*	Caracol Lynx.
Lynx Chaus *Sw.*	Booted, or Marsh Lynx.
Sciurus getulus.	Barbary Squirrel.
Camelus Dromedarius.	Arabian Camel.
Mus barbarus.	Barbary Mouse.
Gasella Dorcas *Sm.*	Barbary Antelope.
Gasella Kevella *Sm.*	Morocco Antelope.
Ovis tragelaphus.	Bearded Sheep.
Damalis Bubalis *Sm.*	The Bubalis.



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Dromedary.

Some of these we shall slightly notice. The Dromedary (*fig.* 807.) (*Camelus Dromedarius* L.) is well known to be the most useful and the most general beast of burden throughout the whole of Northern Africa. It is smaller than the Asiatic or Bactrian Camel, and has but one hump, while that has two; but the legs are more slender and elevated. There are several breeds, differing chiefly in size or colour; those of Turkey are the strongest, and best suited for burden; but the Arabian and Barbary breeds are the lightest and the swiftest. The females, when gravid, are usually taken from their work.

Regarding the Bearded Sheep (*Ovis tragelaphus*) said to inhabit Northern Africa in a wild state, no very recent accounts have reached us. Dr. Caius, about 1561, describes it as being of an immense size, nearly equal to that of a stag; yet it was gentle, petulant, and lascivious, fond of ascending high places and roofs of houses, running swiftly, and bounding prodigiously. This animal, continues Major Smith, (Grif. Cuv. iv. 320.), appears to be the real Fishtall, or Lerwee, of Shaw.

The Bubal (*Damalis Bubalis*) so nearly resembles the European buffalo, that travellers have confounded the two together. Its general appearance is not unlike that of a small cow; the proportions are heavy, the head long and clumsy, and the singular elevation of the shoulders is remarkably striking. It is wholly of a yellowish dun colour; the tuft of the tail being alone black. They seem to live in small troops throughout the deserts and forests of Northern Africa, from the Nile to Morocco, and were met with by Messrs. Denham and Clapperton in the woods of Bornou. The Arabs give them a name signifying cattle of the forest.

References to the Map of Barbary, or Northern Africa.

1. Tatta
2. Akka
3. Stukka
4. Agulon, or Aguluh
5. Macas
6. Agadeer, or Santa Cruz
7. Tamara
8. Torodant
9. Ossum
10. Tesegdoll
11. Mogadore, or Suerha
12. Morocco
13. Azaffi, or Saffi
14. Oualida
15. Tet
16. Burgia, or Mazagan
17. Sunit
18. Dar el Beed
19. Tregeget
20. Tedla
21. Gher, or Guer
22. Tafilet
23. Sigilmessa
24. Sugahila
25. Mazalig
26. Beni Besseri
27. Fighig
28. Manufactory of Haiks
29. Mequinez
30. Rabat
31. Sallee
32. Mehedume
33. El Hoom
34. Oulod Aisa
35. Fez
36. Alcassar
37. El Haratch, or Larache
38. Arzilla
39. Tangier
40. Ceuta
41. Tetuan
42. Mostaza
43. Penon de Velez, Fort
44. Teza
45. Doubdou
46. Hadaha
47. Garais
48. Cala Nuftiz
49. Melila
50. Kilbadana
51. Alcassaba
52. Ouschda
53. Nedrome
54. Tlemsen, or Tremezen
55. Sinan
56. Marsa Kebir
57. Nisrag
58. Tegorarin
59. Gurdeia
60. Lowaato
61. Midroe
62. Gojeeda
63. Nador
64. Tagazoute
65. Arzew
66. El Callah
67. Mostagan
68. Loha
69. Merjejah
70. Tissumseely
71. Tukereah
72. Tejemoute
73. Dimidde
74. Amoura
75. Herba
76. Booferjoone
77. Burgh
78. S. Ben Tyba
79. Maliana
80. Zerzabal
81. Algiers
82. Shahfah
83. Burgh Hamza
84. S. Eesa
85. S. Braham
86. Callah
87. S. Hamet
88. Boujeiah
89. S. Eusaf
90. Seteef
91. Mugrah
92. Tubnah
93. Emboukhal
94. Sidi Khallat
95. Lewa
96. Piscara
97. El Fithe
98. Melgig
99. Zeribe
100. Tezzoute
101. Tattubi
102. Constantina
103. Zezeh
104. Kollo
105. Stora, or Soiguta
106. Tifas
107. Greesa
108. Hydrah
109. Casir Jebbir
110. La Calir
111. Beja
112. Tuburleo
113. Tunis
114. Mazida
115. Kalibia
116. Hammamet
117. Zowan
118. Keff
119. Kairwan
120. Almahdia, or Africa
121. Sbea
122. Sfax
123. Ungha
124. Nathor Tower
125. Ferina
126. Gaffsa
127. Tegewse
128. Toser
129. Nesta
130. Fatnassa
131. Caleea
132. Catana
133. Zarissa
134. Kela
135. Bucseala
136. Zoara
137. Sabart, or Old Tripoli
138. Beneabbas
139. Tripoli
140. Marahut
141. Lebeda
142. W. el Khahan
143. Mesurata
144. Tauerga
145. Benioleed
146. Ghirza
147. Isa
148. Wadey Billma
149. Donjam
150. Mhad Hassun
151. Zaffran
152. Medina Sultan
153. Busaida
154. Hudia
155. Linuf
156. Mukdar
157. Zella, or Zala
158. Wadan
159. Sockna
160. Gadamis
161. Idri
162. Zuela
163. Germa
164. Mourzouk
165. Ghraat.

Rivers.

a Akassa
b Messa
c Draha
d Tensift
e Morbeya
f Enfife
g Fellelly
h Ghir
i Tafilet
j Leven
k Mahala, or Moulonia
l Enza
m Habrah
n Shellif
o Isser
p Wed el Ouse
q Wed el Shaier
r Mejerda
s Abiad
t Adjidee, or Zaab
u Wad Fessa
v Wad el Jeare.

The Domestic animals deserving notice, besides the Camel, are the superb Horses of Barbary, and the different breeds of cattle and sheep extending over Northern Africa.

The Barbary horse vies with the Arabian in beauty of form, although not, perhaps, in the fleetness of its course. The chest is better made, and more rounded; the forehead, instead of being hollowed, is rather prominent, and the shape of the head is finer: the figure altogether is more imposing than that of the Arab, although their stature is nearly equal. The best Barbary horses are found, at the present day, in the kingdoms of Morocco and Fez; but the Moors do not take near so much care of their horses as the Arabians.

The Morocco breed of Sheep have long wool, the hair on the neck rather shorter and more curled: like most of the African breeds, they are remarkable for their strong make and long legs: their horns are small, turned spirally outwards, and the scrotum forming two separate sacs; the general colour is white, tinged with liver-colour. There is another breed, called the Barbary, having the tail so broad at its base, as to be wider than the buttocks; the wool is coarse, and of a rufous colour on the neck, legs, tail, ears, and nose: the face is much arched, the ears pendulous, and the horns retain the original curve of the Argalis, on a smaller scale; the tail is longer than in the last. The third race of Northern Africa is found in Barbary, and even in Corsica. It is policerate, with pendulous ears, having the tail not much widened, and the colour white. This breed is remarkable for bearing two different kinds of fleece, the posterior parts being covered with wool, while soft loose hair extends from the head to the shoulders: a crossed breed of this race was some time ago brought to England. It was entirely covered with soft silky hair of a silvery whiteness; that on the neck being of great length.

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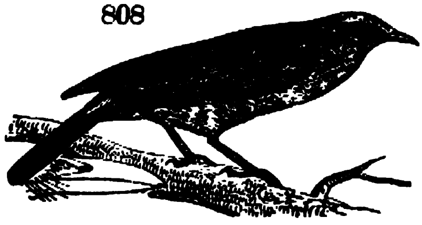

Barbary Shrike.

Besides several Birds, found also on the opposite shores of Europe, Barbary is known to possess many other species, inhabiting the arid tracts of the desert, such as Quails, Partridges, and Bustards. The most beautiful bird seems to be the Barbary Shrike (*fig.* 808.) (*Malaconotus barbarus* Swains.), about the size of a thrush; black above, and crimson beneath; the top of the head being yellow.

Sect. III.—*Historical Geography.*

Barbary occupied a more conspicuous place in the ancient than in the modern world. It formed part, and in many instances a prominent part, in the great system of civilised nations around the Mediterranean. Cyrenaica, its most easterly portion, corresponding now to Barca and part of Tripoli, was one of the most flourishing Grecian colonies. Africa Proper, including the rest of Tripoli and part of Tunis, contained Carthage, the pride of Africa, the mistress of Spain and Sicily, and the chief medium of commercial intercourse in the ancient world. Illustrious by her rivalry with Rome, and her mighty struggle for universal empire, she was not less distinguished by her glorious fall. The southern part of Tunis, joined to the Algerine province of Constantina, once formed the powerful kingdom of Numidia, which rendered itself famous both as the ally and enemy of Rome. Western Algiers and Fez composed Mauritania, a ruder region, yet distinguished for its swarms of brave irregular cavalry. The southern part of Morocco was Getulia, an imperfectly known tract, inhabited by a race almost proverbial for savage fierceness.

All these districts, with the exception of the remote ones last mentioned, were incorporated into the Roman empire, and became, in some degree, the granary of Italy. They were exposed, however, earlier than might have been anticipated from their situation, to the inroad of the northern barbarians. Genseric the Vandal fixed here the seat of his kingdom, and established a naval power which made him master of the Mediterranean.

The invasion of the Saracens produced a complete and permanent change in Northern Africa. They entered it, not only as conquerors, but in vast migratory bodies, which stamped the Arabian and Mahometan character upon the whole population. Barbary was at first governed, under the caliphs of Bagdad, by a viceroy, who established his residence at Cairoan, or Kairwan. As the central power lost its energy, the states of Barbary erected themselves into independent kingdoms, among which Cairoan was still the eastern capital; but it was almost eclipsed in power and splendour by Fez, a city which then ranked among the first in the world for learning and civilisation. By degrees, however, the Barbary states, like all others subjected to the recluse and bigoted system of Mahomet, lost their light and intelligence, and, having no intercourse but that of deadly hostility with the improved kingdoms of Christendom, they had no means of recovering those advantages. Thus they became, three centuries ago, and have ever since continued, blind, stupid, and barbarous.

The piratical war between the Turks and the Christians, during the fifteenth century, occasioned a further change. The celebrated pirates Barbarossa and Hayraddin seized upon Algiers, Tunis, and Tripoli, and established them as dependencies of the Turkish empire. Retaining still the spirit of these conquerors, they continued, even after the fall of the Turkish naval power, to devote themselves to piracy; and their situation along the Mediterranean enabled them to act with terrible effect on the European states. Morocco, though she remained independent of Turkey, thought this too good an example to be neglected; and her piracies were at one time still more terrible than those of the other states, though they have not been so long continued.

In the course of the last half-century, the three states have shaken off the Ottoman yoke. In Tunis and Tripoli, the Turkish population has been reduced to subordination under the Moorish and Negro troops; while in Algiers, the Turkish soldiery continued to hold a barbarous sway, deposing and electing the sovereign at pleasure. Their flagrant piracies, however, at length called forth the armed interposition of the European powers. England first inflicted a signal chastisement; and France has at length made a complete conquest of the city, and is endeavouring to colonise the territory.

Sect. IV.—*Political Geography.*

Scarcely any trace of order, liberty, or good government exists in any of the states composing this extensive region. The only limitation to a blind and barbarous despotism is found in the tumultuary sway of a brutal soldiery. In Morocco, pure despotism reigns; and that country has repeatedly been ruled by monsters who were a disgrace to humanity. The emperor, however, who reigned previous to the existing civil wars, of which we have only a very imperfect account, is described as mild and equitable, compared to his predecessors. The monarchs of Morocco claim the crown in the capacity of sheriffes, or descendants of Mahomet, and they attempt to increase the lustre of the regal dignity by assuming the character of doctors, prophets, and saints; which, however, they seem to regard as not inconsistent with the most unbounded indulgence of cruelty and sensuality. The emperor claiming the supremacy in religion, which in Mahometan countries includes law, prevents, probably, the formation of any corporate bodies, either hierarchical or juridical, sufficiently important to influence the public. There does not appear even to be any council of state, or deliberative assembly, like the Turkish divan. Every thing depends upon the momentary will and caprice of the prince. This absence, however, of all regular check, does not prevent the frequent occurrence of rebellion, which is almost without intermission fomented by the different members of a family contending for the throne; the sons against the father, and the brothers against each other.

The government of Algiers was formed on the Turkish model, the Dey being originally an officer appointed by the Porte, and, like other despotic viceroys, exercising in the interior government all the powers of the sultan. Here, as at Constantinople, there appears to have been always a divan, which, being composed of the heads of that military body by whom the Turkish sway was alone maintained, possessed very extensive influence. When Algiers became independent of the Porte, nearly the whole power passed into the hands of the tumultuous Janissaries, who set up, deposed, and massacred the chief magistrate at pleasure. A long interval did not often elapse between the period when the Dey was raised to power, and that in which his life was terminated by the bowstring.

Tunis presents a more agreeable spectacle. Its ruler, who, under the title of Bey, was originally a mere officer of the Porte, has now succeeded in emancipating himself, not only from this subjection, but even from dependence upon the Turkish soldiery. This revolution was chiefly effected by Hamooda, the Dey reigning in 1816, whose vigour of character had preserved him in power twenty-nine years; a very unusual period in the tumultuary annals of Barbary. Instead of allowing himself to be kept in thraldom by the Turks, he chose his officers in preference from among the European and Georgian slaves and renegadoes. He established a regular administration of justice, and extended equal protection to all classes of the inhabitants, not even excepting Christians and Jews, whom it had been considered the duty and privilege of the Moors to take every opportunity of insulting, of plundering, and even of killing. Although, therefore, the administration still exhibits many barbarous and oppressive features, yet, upon the whole, Tunis has improved, while Western Barbary has been sinking continually deeper in wretchedness and brutality.

Tripoli has made still farther advances. Its progress has been ascribed to Hamet, whom the Tripolitans honour with the surname of Great. At the commencement of the last century he was a mere Pacha under the Turks, and his life was in perpetual peril from their licentious soldiery. He relieved himself from them in a manner truly barbarous. Having invited their chiefs, to the number of 300, to a feast, he caused them all to be seized and strangled. His adherents then commenced a general massacre throughout the city, and the Turkish sway was entirely annihilated. The Porte, which could with difficulty have vindicated its claims, suffered itself to be pacified by presents and tribute, and finally lost all dominion over the state. Hamet was very active in introducing every kind of improvement, inducing Europeans to settle in his territories, and promoting all the manufactures for which Tripoli was adapted. His successor, of a milder character, finding himself in peaceable possession of the sovereignty, exercised it with great equity and moderation; so that Tripoli assumed an orderly and civilized appearance, resembling that of the European states, especially when compared with the turbulent aspect of its African neighbours. Although it has been since exposed to some convulsions, the present government appears to retain the same liberal and improving character by which it has so long been distinguished.

The foreign relations of the Barbary states have not been extensive. The European powers long regarded them with cold and distant hostility, but without considering the conquest of them as a desirable object. These states were not in a condition to attempt schemes of distant aggrandisement. Their only pretensions to dominion are over the tracts behind the Atlas, and bordering on the great desert, called Tafilet, Sigilmessa, and the Bled el Jereed. Even the subjection of these countries is confined to the exaction of a tribute, which a flying detachment of troops, sent round once a year, forcibly collects. Since the reign of Hamet the Great, Tripoli has held Fezzan tributary. Spain possesses the fortresses of Ceuta, Melilla, and Peñon de Velez in Morocco, but without any territory attached to them; and this is now the only memorial of the long and deadly wars between the two countries. The efforts to put down their piratical inroads have brought them more into contact with the powers of Europe; and the issue of these, in the occupation of Algiers by France, promises to form a new era in the destiny of this part of the world. Those predatory ravages by which, down to a very recent period, they rendered themselves terrible to the powers situated upon and navigating the Mediterranean, seem to be now finally suppressed.

Sect. V.—*Productive Industry.*

In every branch of productive industry the states of Barbary exhibit marks of imperfection and decay.

Of the agriculture of Barbary our accounts are very imperfect, this branch having been unaccountably omitted by Dr. Shaw; but enough has transpired to show it to be in a most imperfect state. In the greater part of Morocco, there exists no such thing as fixed property in land. It is cultivated by moveable Arab camps, called *douars*, which establish themselves on a spot, continue till they have exhausted it, and then remove to another. In consequence, however, of the fertility of the soil, and of the want of a manufacturing population to consume its produce, there is in every state a large surplus of corn, which forms, when permitted, the staple article of export. Wheat and barley are the kinds generally cultivated; the soft and friable soil is particularly adapted to the latter. Rice is said to be raised on the banks of some of the rivers; but to its culture, upon the whole, this arid soil is peculiarly unfavourable; and the species of holcus, or dhourra, peculiar to the district are extensively cultivated. Coolness and moisture being the requisites wanted, the winter months compose the verdant and flourishing period of the year. The harvest is gathered in April and May; after which, from June to September, the country exhibits an aspect entirely parched and burnt up. The inhabitants possess the art of preserving the grain for several years, by burying it under ground in their dry soil.

All the fruits of southern Europe come to perfection in Barbary; and the excellence of the olive is particularly noted. The vine flourishes; though the religious system of the natives deters them from converting the grape into wine, even for exportation. As we advance into the dry plains of the interior, all these fruits disappear; but their place is supplied by that of the date tree, which entirely covers the face of the country, and forms the principal support to the inhabitants of the southern districts.

Of domestic animals, the cow, destitute of the rich pastures of Europe, is small in size, and deficient in milk. The sheep are also small; but those fed on the Atlas produce that exquisite mutton peculiar to mountain pastures. There are also some species, which, with little attention on the part of their proprietors, produce very fine wool. Goats are very numerous in the mountain districts; and their skins yield that soft and delicate leather for which Morocco is famous. The horses of Barbary were formerly much valued; and this ancient boast of Numidia has not altogether lost its qualities; but, the persons in power under so oppressive a government being accustomed to seize the best for their own use, the proprietors are discouraged from bestowing any peculiar pains in improving the breed. The once famed Barbary horses now yield to the Arabian, and even to the Egyptian. The ass, and the mule, are the ordinary beasts of burden. Beyond Atlas, the camel alone is suited to the sandy expanse of the wilderness. A small number is maintained of that species called the *heirie*, or desert camel, which seems to be the fleetest of all known animals. Mr. Jackson mentions one, which, in seven days, travelled across the Great Desert, a distance of about 1000 miles; and another which went from Mogadore to Morocco, and returned in one day, though the interval between these cities is not short of 100 miles. The honey, which is copiously collected through Barbary, seems to be chiefly the produce of wild bees.

Although manufacturing industry must rank low in the Barbary states, yet there are some branches in which the inhabitants excel. The most noted is that of the leather already mentioned as known under the name of morocco, and celebrated for its softness, pliancy, and beauty. It is afforded by the goats which climb the declivities of the Atlas, particularly on the side of Tafilet: but its valued qualities are doubtless, in a great measure, due to the mode of tanning and preparing it. Fez is the chief theatre of this manufacture. It carries on also several woollen fabrics, particularly of a species of long robes called haïks, which are generally worn in the East; and of carpets, little inferior to those brought from Turkey. It makes also silk stuffs, chiefly sashes and handkerchiefs. Among the states on the Mediterranean, Tunis is by much the most distinguished for industry and manufactures. Its staple is a small species of conical woollen caps, called skull-caps, which are universally worn in Eastern countries. This fabric is said to have afforded at one time employment to 50,000 persons; but Leghorn and Marseilles have now succeeded in producing an imitation, and the caps manufactured there, though not equal in quality, can be sold so much cheaper, that they have superseded to a great degree those made at Tunis. There are likewise large manufactures of robes and shawls of woollen and gauze, carried on also in Algiers and Tripoli, though not on so large a scale.

The commerce of this rude territory is also very limited. Its exports consist chiefly in the raw produce of the soil. In ancient times the African coast formed the granary of the Roman empire; and its corn continued to find a copious market in southern Europe, till its exportation was prohibited by the absurd policy of all the Barbary states, except Tunis. Even there, it is loaded with heavy imposts, twenty-two piastres and a half (1*l.* 10*s.*) being paid on the coffee (two English quarters) of wheat, and eleven piastres and three quarters on the same quantity of barley. The chief shipping port is Biserta. Tunis exports also olive oil, which does not become rancid so soon as the Italian oils; a large quantity of excellent soap, made from olive oil and barilla, with some sponge and orchilla weed collected on the shore. The commerce of Morocco is carried on almost exclusively from Mogadore. The exports consist of almonds, sweet and bitter, to the amount of about 1,000,000 pounds, cow-hides and calf-skins, 260,000 lbs.; goat-skins, 10,000 dozen. Wool was formerly a large article of export; but it is now absurdly prohibited. Ostrich feathers, olive oil, and some varieties of fruit, complete the list of native exports. Tripoli, Tunis, and, still more, Morocco, send to Europe the produce of Soudan, gold dust, ivory, and gums, particularly gum senegal. Of this last article Mogadore exports not less than 100,000 lbs. The total value of the exports from that city is stated by Mr. Jackson at 127,000*l.* sterling. The commerce of Eastern Barbary has been carried on chiefly from Leghorn and Marseilles, at which last place Louis XIV. established an African company. Britain at the same time had a company, which shared some portion of the trade; and private merchants opened a little direct intercourse, but sent their goods chiefly through the French and Italian ports. Since the continental war, however, and the possession of Malta by the British, a good deal of communication has been maintained from that island. The Barbary states receive, generally speaking, every species of European manufactured goods and colonial produce. The cloths most in demand in the markets are those which, being of a coarse description, can be offered cheap. Those of the kind called scarlet long ells are particularly adapted for the trade of interior Africa. German coarse linen, hardware, toys, tin and lead, alum, vitriol, and cochineal for their manufactures, may be named among the principal articles.

The most active commerce of the Barbary states is that by the caravans with interior Africa. Tripoli sends hers by Fezzan to Bornou and Cassina, and thence across as far as Ashantee; Tunis by Gadamis and Tuat to Tombuctoo; Morocco across the broadest of the desert to the same city, and to the countries on the Senegal. A more particular account of the mode in which this trade is carried on will be given when we come to treat of the central countries of Africa. Into these countries the caravans carry salt, which is wanting along the whole line of the Senegal and Niger; together with European manufactures, particularly cloths of different kinds, hardware, and toys. The returns are gold dust, ivory, gum senegal, and, above all, slaves, for whom these unfortunate countries have been so long ransacked to supply the other quarters of the globe. It is impossible to form even a conjecture as to the amount of this inland trade.

The mercantile shipping of the Barbary states may be considered as next to nothing. Fishery, notwithstanding the extent of its coasts, is pursued only for immediate consumption. There is, indeed, a coral fishery, of some value, on the coast of Constantina, in Algiers, near Bona and La Cala. Mr. Blaquiere asserts that it might employ 500 boats and 9000 men; but we question if Europe would afford a market for so extensive a produce. With a view to this fishery, the British government, in 1806, contracted to pay to the Dey of Algiers 50,000 dollars (11,000*l.* sterling) for the possession of Bona, La Cala, and Il Col; but, having omitted to form a military establishment at any of these places, it has derived, as yet, no advantages from the purchase. This branch of industry is carried on chiefly by vessels from Sicily, Leghorn, and other ports of Italy.

Sect. VI.—*Civil and Social State.*

Of the population of Barbary, which has probably much diminished, only a very loose estimate can be made. Mr. Jackson, indeed, has given statements of the population of the empire of Morocco, founded on documents in the imperial register, according to which, it amounts to 14,886,600: but, if such records really exist, we can scarcely consider them as proceeding from any thing but an empty vaunt, unless they be taken as relating to a more prosperous period. They assign to the city of Morocco, for instance, a population of 270,000; while the most judicious travellers do not suppose that, in its present state of decay, it contains more than 80,000. We cannot, therefore, but prefer the estimate of Chenier, which allows to the whole empire only 6,000,000; and perhaps even this is beyond the truth. Respecting the population of Tunis and its territory, the statements made to Mr. Macgill, according to which it amounted to 5,000,000, appeared to him greatly exaggerated. The most careful estimates of the population of Algiers make it rather under than above 2,000,000. Tripoli is stated by Ali Bey at 2,000,000; but, notwithstanding the extent of territory, its prevailing barrenness would warrant the conclusion that one-third of this is a very full estimate. Proceeding on these loose data, which are all we have, we may guess the population of Barbary as follows:—Morocco, 6,000,000; Algiers, 2,000,000; Tunis, 2,000,000; Tripoli, 600,000: in all, 10,600,000.

The inhabitants of Barbary are separated into three very distinct classes; the Moors, the Arabs, and the Berbers or Berebbers.

The Moors inhabit the cities of Barbary, and the country in their immediate vicinity. The term Moor, derived from the ancient *Mauri*, is applied throughout Africa in a very vague manner. In Central Africa it is made to comprehend all Mahometans who are not Turks. In Barbary, however, the wandering tribes are distinguished by the name of Arabs, and the term Moor is applied chiefly to the inhabitants of cities. Mahometan cities, in general, present a uniform scene. The inhabitants drag a recluse, gloomy, and monotonous existence. They are strangers to social assemblies, to public amusements, to the arts, and to every thing that animates life. Their time is chiefly spent, in a retired manner, in the interior of their houses. The females, according to the invariable Mahometan custom, are strictly excluded from general society, and must see none of the male sex, except their husbands; they are immured like slaves in the apartments of the harem. That aspect of apathy and gravity, however, which a Moor presents at first view, is, in a great measure, fallacious, and he is easily roused from it to the most outrageous acts of bloodshed and violence. In Barbary, the habits of a seafaring and piratical life have rendered these occasions more frequent, and have produced a character more habitually turbulent and disorderly, than is usual in Turkish states. Indeed, European travellers have usually described the Moors as a race devoid of all good qualities, and combining every sort of depravity; but the relations between the parties have usually been of a very hostile nature, embittered both by religious and political rancour.

The harem, that favourite and almost sole seat of Oriental luxury, is, of course, inaccessible, and can only through some peculiar chance be seen by Europeans. Lempriere, however, in his character of a physician, was admitted into that of the Emperor of Morocco. It consisted of a wing of the palace, entirely separated from the rest, and communicating only by a private door, of which the emperor had the key. The edifice was divided into a number of courts, communicating by narrow passages, round which were ranged the apartments of the wives and concubines, who were from sixty to a hundred in number, besides their domestics and slaves. There was a principal sultana, who had a general superintendence over the establishment, but enjoyed not the same influence with the emperor as some of the younger favourites. There were several European captives, who appeared to the traveller the chief ornament of the harem, both as to personal and mental accomplishments. The Moorish ladies were enormously fat, and utterly stupid and ignorant. Their allowance from their imperial master amounted, in the case of the most favoured, only to half a crown a day; so that expense and luxury were to be maintained by presents or bribes received from the numerous suitors for favours from the emperor, who is understood to approve entirely this delicate mode of supply. A more favourable account is given of the Tripolitan harem by a lady who resided in that city for many years, in the family of Mr. Tully, the English ambassador. The inmates, who are generally Georgian and Circassian captives, not only possess superior personal beauty, but are endowed with various ornamental accomplishments acquired at Constantinople. Their time is also busily employed in superintending the numerous slaves, who grind, spin, and perform all the domestic operations. Their toilette is performed in a very elaborate manner, which employs several hours, and demands the service of a number of slaves. Each of the latter has a separate office; one to perfume the hair, another to arrange the eyebrows, a third to paint them, and so on. The blackening of the latter by a preparation of antimony, the forming of them into a particular shape, and the filling of the hair with powdered cloves, perfumes, and scented waters, are the most favourite modes of female adornment. In their domestic character, the ladies are said to display many amiable qualities; though here, as in Morocco, the jealousy of superior favour with their lord and master often excites violent enmities, and even impels to the crime of administering poison to a hated rival.

While the Moors thus inhabit all the great towns and the fixed villages in their immediate vicinity, all the remoter districts are occupied by a race who are called Arabs, either because they are really the descendants of the Saracen conquerors, or, from situation and circumstances, have acquired similar habits. They dwell in a species of moveable encampments called douars, composed of a number of broad and low tents, painted black, and resembling in form the hull of a ship. They are formed of cloth made of camel's hair and the fibres of the palm tree, and are arranged generally in three concentric circles, in the interior of which the cattle are secured during the night. Each douar is governed by a sheik, or chief, who is considered as standing in a paternal relation to the rest; kindred being the tie which chiefly unites them, and no one not related to the common family being allowed to reside in the douar. Their manner of living is quite patriarchal, and their rites of hospitality so primitive, that they remind us of those practised by Abraham to the three angels, as recorded in Scripture. The greatest sheik, when a stranger enters his tent, sets down water, and assists him to wash his feet. He goes to the flock, brings in a calf or a kid, kills it with his own hands, and delivers it to his wife to dress. Like all the races which bear the Arab name, they are equally distinguished for hospitality and robbery; often exercising the latter against those who have just been the objects of the former. When they have exhausted one spot, they prepare to move to another; for which purpose, however, they must obtain the sanction of the government, which is held as the proprietor of all these wide tracts of unoccupied land; a permission for which a large sum of money must be always paid. The douar then breaks up, and its members depart, with their wives, children, cattle, tents, furniture, agricultural implements, and every thing which they possess. The men walk, driving the cattle; the women are mounted on camels, three on each; the children, lambs, and kids are hung in panniers by the sides of these animals (*fig.* 809.). The internal administration of these camps, or douars, is almost entirely independent of the emperor or prince; the several communities are animated by deadly feuds against each other, which often lead to conflict; and, in every case of weak government or disputed succession, many of the Arabs betake themselves without hesitation to plunder.

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Removal of an Arab Village.

While these wandering tribes cover the plains, the mountain districts of Atlas are occupied by the Brebes, or Berbers, who seem to be the original and most ancient inhabitants of Barbary, driven to take refuge in these inaccessible retreats. In the little valleys embosomed within the huge declivities of the Atlas, they build their villages, which are beautifully enclosed with gardens and plantations. Some of those, however, occupying the higher and ruder parts of the chain, dwell in caves cut out of the rock. They are hard-featured, athletic, and patient of fatigue. Occupied in pasturage and cultivation, they also employ themselves much in hunting, and derive an extensive profit from the skins of wild beasts. Their favourite exercise is the use of the musket, both in firing at a mark, and twirling it variously in the air; in which they have acquired remarkable dexterity: those who can afford it take a pride even in ornamenting their fire-arms with gold and ivory. Possessing such habits, they are by no means quiet subjects of the Moorish empire and the other states to which their territory belongs. Their only homage consists in a tribute, at once scanty and uncertain. In their revolts, which are not unfrequent, their valour, and the rugged nature of the territory, render it almost impossible to subdue them. On the contrary, they have sometimes descended into the plain, and carried their inroads to the very gates of Morocco. They have none of the migratory habits of the Arabs; but, on the contrary, are unwilling to remove from their original spot. Unlike the Arabs, too, they elect their own sheiks, and have a republican form of government, very unusual in this part of Africa. They speak a language called the Amazigh, or Berber, entirely different from that of the Moors and Arabs, who often require an interpreter when conversing with them. This language is supposed to be very ancient, and is of the same family with that of the Tibbo, the Tuaricks, and other indigenous tribes who roam over the plains to the south-east.

The Shilluks are a branch of the Berbers, somewhat smaller in stature, and less rude in character, inhabiting the mountainous districts in the south of Morocco. The Errifi, on the contrary, who border on Algiers, are still braver and fiercer; the very glance of their eye is said to strike terror into the inhabitants of the plains.

The religion of all the Barbary states is that of zealous Mahometans; and the ferocious bigotry which everywhere characterises the professors of Islam is carried, if possible, to a higher pitch in this country than elsewhere. The cruelty exercised against their European captives is exasperated, or at least all pity and remorse are deadened, by religious antipathy. Although they have talbas, or spiritual instructors, very little of any real knowledge or improvement seems derived from these personages. There is no connection between the ministers of religion and the government; neither is there any corporate body, like the ulema in Turkey, to preserve and maintain the doctrine and discipline of the church. The veneration of the people is almost exclusively bestowed on a class of persons who, by individual exertion, raise themselves to the character of saints. This character is not attained by any peculiar purity of life, or even rigour of superstitious observance. Grotesque and fantastic pretensions to supernatural power, and to an intercourse with invisible beings, are the means by which they impose on the credulous multitude. Throughout all this region the idea prevails according to which idiots and madmen are reputed holy; and privation of reason is even feigned for the sake of attracting veneration. The higher class of saints are decidedly the second persons in the kingdom, if they do not even rival the monarch. Indeed, the emperors of Morocco have been long accustomed, by high pretensions to sanctity, to heighten the respect of their subjects. That most savage of tyrants, Muley Ismael, spent a great part of his time in superstitious gestures and observances, calculated to impress the idea of his direct communication with the Deity and with Mahomet, and of superhuman powers thence derived. Barbary, moreover, is overrun by superstitions of all kinds, such as usually prevail among the vulgar in unenlightened countries; among which, the belief in the potency of an evil eye is particularly prevalent. Individuals among the Arabs still make a boast of the power of charming serpents. They exhibit themselves to the admiring multitude, half-naked, in strange attitudes and contortions, and twined round by those creatures, whom they certainly have the art of rendering innoxious (*fig.* 810.). The most amiable of their feelings consists in the reverence paid to deceased relations, which exists to a much greater extent than is customary among Europeans. Every Friday evening forms what is called "the feast of the dead," when the people repair to the tombs of their ancestors, who are supposed to be present on that evening, and to share the almost gay festival which is there celebrated.

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Serpent Charmer.

Learning and science in Barbary may be considered as nearly extinct. Like the other Saracen states, those of Barbary, and of Morocco in particular, were formerly distinguished for the cultivation of mathematics and astronomy. Fez was a celebrated school, to which students from the most distant quarters resorted. At present, by far the greater part of the population can neither write, read, nor perform the most common operations of arithmetic, and there are scarcely any persons who have acquired the mere rudiments of knowledge. Shaw mentions as having been shown to him quadrants and astrolabes constructed in the most admirable manner; but such instruments were exhibited as mere curiosities, without the least idea being entertained of their use. Medicine, in which the Arabs boast of the great names of Avicenna and Averrhoes, cannot be very highly cultivated in a country where the usual fee of a physician is sixpence; and a shilling is only bestowed in the most serious and important cases. Accordingly, unless for mere external wounds and hurts, the interposition of a native practitioner seems rather productive of injury than benefit. European physicians are always eagerly sought, and are considered as possessed of almost supernatural power.

The amusements of the natives of Barbary are very little varied. Mixed company, public exhibitions, and theatrical entertainments, which give so gay an aspect to European society, are altogether foreign to their habits. Among those who are not obliged to labour for bread, the day is spent chiefly in a sort of listless indolence; lounging at coffee-houses and barbers' shops, the favourite scenes of talk and scandal. Chess is pursued with great eagerness. Opium, so passionately indulged in by the Turks, is not in use here; but, instead of it, they have a sort of preparation from hemp, which produces nearly the same effect. Wine, too, is taken much more freely, even to excess, and in a convivial manner, especially at Algiers and Tunis, than in other Mahometan countries. But horsemanship, above every thing else, forms the pride and amusement of the Moors; and their feats in this art are often very wonderful (*fig.* 811.). They are particularly fond of galloping, and then suddenly stopping; and some will even lift objects from the ground while riding at full speed. Although, however, the rich Moors are almost constantly on the backs of their horses, they train them to none of those travelling paces which are found so useful in Europe; they have no idea of any thing intermediate between a walk and a gallop.

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Amusements of the Moors.

In the dress of the Moors and Arabs, the most conspicuous feature is the haïk, or hyke, a large square piece of woollen cloth, commonly six yards both in length and breadth, which is folded loosely round the body. It seems to be the same with the *garment* of the Jews, and indeed the very same with the Highland plaid. The loose manner in which the haïk is attached to the body renders it necessary, whenever any work is to be seriously set about, to tighten the girdle, which is formed of woollen, often richly ornamented, and in which also the weapons are stuck. Hence arises the figurative expression so often applied in Scripture to the industrious, to have their loins girt. Under the haïk is the tunic, or coat, which sits close to the body, and beneath it the shirt, which the Moors wear of linen or cotton, but the Arabs of woollen. A species of cloak, called burnoose, is thrown over the haïk, when necessary, as a defence against rain or cold; and it has a cape which may be raised to cover the head. On the head is also worn a species of conical scarlet cap, covering the crown; below which is wrapped the turban, expressing, by the number and variety of its folds, the rank of the wearer (*fig.* 812.).

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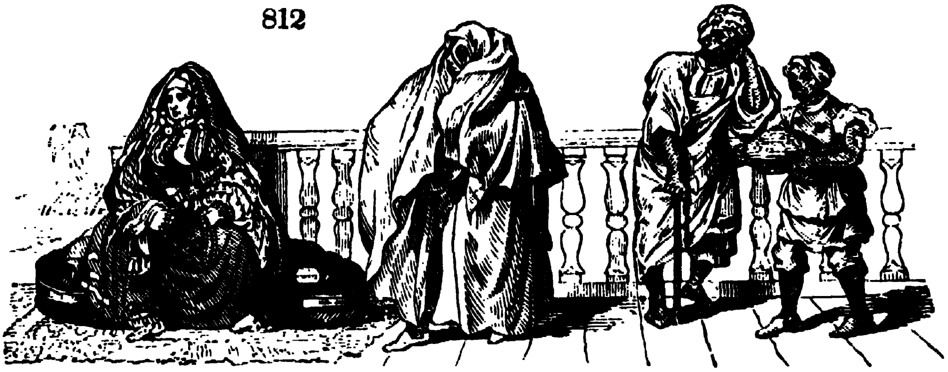

Dress of the Moors.

With regard to food, one dish prevails at the table of all, from the prince to the peasant, which is *cuscosoo*, a sort of almost fluid paste made of crumbled bread, and enriched according to the means of the preparer, with small pieces of meat, vegetables, and condiments. This dish, placed in a large wooden or earthen bowl, is set in the middle of the company, who immediately thrust in their fingers, lift it to their mouths, stirring it, if necessary, with their hands, and selecting the most savoury morsels. The rich, on great occasions, present a variety of dishes; but they are all cooked in the same manner, consisting of what we call spoon-meat. To make some amends for this mode of eating, the custom of washing the hands both before and after eating is still rigorously observed.

Sect. VII.—*Local Geography.*

Subsect. 1.—*Morocco.*

Morocco, the most westerly, is also the most extensive and important, of the Barbary states. It has two coasts: one along the Mediterranean facing the north, the other and larger along the Atlantic, looking to the west. The loftiest part of the chain of Atlas runs parallel to these coasts, changing its direction along with them, and leaving an intermediate plain, finely watered and not surpassed in natural fertility by any part of the globe. But though the modern Moors have advanced greatly beyond the rude and roaming habits of the ancient Mauri, they are far from improving the country to nearly the extent of which it is susceptible. Mr. Washington conceives it might be made one vast corn-field, and that the ground over-run with weeds and brushwood might afford food to millions. Beyond the range of Atlas, however, Morocco includes a more arid region named Tafilet, unfit for grain, but yielding the finest dates in the world, and rearing a breed of goats whose skins afford the material for the fine morocco leather.

The political and social state of Morocco is rude and degrading. The emperor possesses a power more despotic than any other even of the Mahometan potentates. He is not held in check by a mufti, an ulema, or even a council or divan. He is supposed to possess a divine character, and to be superior to all law. One emperor, being reminded of a promise, said, "Takest thou me to be an infidel, that I must be the slave of my word!" Yet this monarch must pay respect to long-established usages and institutions; must not invade the domestic privacy of any of his subjects; and must even give public audience four times a week to administer justice to all who may appeal to him from the cadi, or local governor. On these occasions he appears on horseback, in an open interior court of the palace, with an umbrella over his head (*fig.* 813.). This absolute power, meantime, is little regarded by the mountaineer tribes, and even by some of those that wander over the plains. Having, too, no one interested in its support, it is continually liable to be shaken by treason, revolt, and disputed succession. Hence these princes have derived a peculiarly jealous and ferocious character; and Morocco has been ruled by some of the most bloody tyrants recorded in history. Among these was pre-eminent Muley Ismael, who introduced the system of employing negro mercenaries as body-guards. They were raised at one time to upwards of 20,000 (Mr. Washington is probably mistaken in saying 100,000), but are now reduced to 5000. They constitute, however, the only regular troops in the empire; the rest are merely a loose militia, summoned by imperial mandate, and, though expert horsemen and good marksmen, destitute of any sort of discipline. The revenue is collected in kind, in the proportion of a tenth of grain and a twentieth of cattle, which, aided by fines and the poll-tax upon Jews, is estimated by Mr. Washington at about 1,000,000*l.* sterling.

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Emperor of Morocco.

Industry and commerce have in Morocco a very limited range. The only important manufacture is that of the leather which bears its name. One tannery in the capital employs, according to Mr. Washington, 1500 persons; and though the processes are slovenly, a fine colour is produced, which Europeans are unable to imitate. Other articles for exportation are almonds, of a very fine quality, from Suse, dates from Tafilet, ivory and gold dust from Soudan; honey, wax, ostrich feathers, &c. In return, it receives the usual articles of European manufacture and colonial produce. This trade is carried on chiefly by the port of Mogadore. The outrageous piracy formerly exercised from Sallee and other ports of Morocco has for a considerable time ceased.

Morocco, the capital, is situated on a very extensive and naturally fruitful plain (*fig.* 814.), above which rises abruptly, covered with perpetual snow, one of the loftiest ranges of Atlas. The mosques are numerous, and several of them present striking specimens of Arabian architecture, particularly that called El Kontouben, the tower of which is 220 feet high. Of the eleven gates, one is richly sculptured in the Moorish style. The palace forms an oblong of 1500 by 600 yards, divided into enclosures, where, surrounded by gardens, are the pavilions of the sovereign, his principal officers and ladies. The floors are tessellated with variously coloured tiles; but a mat, a small carpet and cushions, compose the entire furniture.

Beautiful gardens surround the city, and spacious aqueducts, conveying water from the Atlas, twenty miles distant, bear testimony to a superior state of the arts in former times.

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View of the plain of Morocco, and the Atlas Mountains.

Fez, situated in the more northerly province of the same name, is a place of high celebrity, and ranked long as the splendid and enlightened metropolis of Western Africa. It was founded, in the end of the eighth century, by a prince of the name of Edris, and rose to such magnitude, that Leo, in the twelfth century, describes it, though doubtless with some exaggeration, as containing 700 mosques, of which fifty were magnificent and adorned with marble pillars. Its schools and its baths were also very celebrated. At present it is described by the latest travellers as presenting a singular mixture of splendour and ruin; and, amid the usual defects of Mahometan cities, the splendour being almost confined to the interior of the houses, it is still an agreeable place. The situation is singular, but pleasant; in a hollow valley surrounded by hills covered with groves and orchards, and with a river winding through it. Fez is still not without some of the sciences which formerly rendered it illustrious; but they are nearly confined to the Koran and its commentators, a slight tincture of grammar and logic, and some very imperfect astronomical observations. The population, respecting which authors greatly vary, is probably rather under than above 100,000. Mequinez, to the west of Fez, has risen to importance by having been made the residence of the sovereign. The seraglio, or palace, consists of a most extensive quadrangular enclosure, though the mansions which it contains are only one story high. The citizens are said to be more polished and hospitable, and the females handsomer, than in the other cities of Morocco. The population seems extremely uncertain.

The sea-ports of Morocco, though they have lost the greatness formerly derived from commerce and piracy, are still not inconsiderable. Mogadore, the most southerly, and the nearest to the capital, is now the chief emporium of the intercourse with Europe. It was founded only in 1760, by the emperor Sidi Mohammed, who spared no pains in raising it to importance. Being composed of houses of white stone, it makes a fine appearance from the sea; but the interior presents the usual gloom of Moorish cities, and is chiefly enlivened by the residences of the European merchants and consuls. The country round is almost a desert of sand; water is scarce, and provisions must be brought from the distance of several miles. The population is reckoned at about 10,000. Saffi, or Azaffi, a very ancient town, with a fine harbour, though also in a barren country, was the chief seat of European commerce till the monopolising preference of the emperor transferred it to Mogadore. Saffi is still supposed to retain a population of 12,000. Mazagan, a small well-built place, of 2000 inhabitants, was in the possession of the Portuguese till 1770. Azamore, formerly a great town, and with walls a mile and a half in circuit, is now deserted, and crumbling into ruin: it has 3000 people. Dar al Beed is a very small place. Farther north, on the opposite sides of a small river, are the important towns of Sallee and Rabat. Sallee, once the terror of the seas, whence issued such bands of pirates and rovers, the seat of action, riot, and bustle, is now still and lifeless. It continues, however, to be surrounded by a wall thirty feet high, and in its mosques, arches, and fountains displays traces of beautiful sculpture, and of great antiquity. What remains of its commerce has been mostly transferred across the river to Rabat, or New Sallee. This place, when viewed from without, presents a picturesque grouping of minarets, palm trees, ruined walls, and old mosques, near which are conspicuous its venerable and battlemented Kassubah, or citadel, and the lofty tower of Sma Hassan. The interior retains still some activity, and the markets are well supplied. Population 18,000, of whom 3000 are Jews. Mehedia, now a poor fishing village, has monuments which display its former importance. El Haratch, or Larache, was once a flourishing European and Christian town; but the churches are now converted into mosques, and the deserted houses of the consuls line the Marina. It has been made the imperial arsenal, and is very strong towards the sea. Tangier, on the straits, was in 1662 ceded by Portugal to England, which abandoned it in 1684. It derives its chief present importance from the permission granted by the emperor to supply Gibraltar with provisions, and from the residence of European consuls. Tetuan, the only port within the Mediterranean, is allowed to carry on some intercourse with the English, whose vessels often take in victuals there on their way up the Mediterranean.

SUBSECT. 2.—*Algiers.*

Algiers, the ancient Numidia, and the grand modern seat of piratical warfare, comprises an extensive and beautiful range of coast, lying between 2° W. and about 9° E. longitude, and thus extending 700 English miles in length. The breadth of the inland territory, till it passes, by almost insensible gradations, into the domain of the mountain tribes, or of the wandering Arabs, is much more vague, varying probably from 50 to 150 miles. The southern border is traversed by the Atlas in three successive ranges, separated by fine and fertile valleys. The range which faces the maritime plain is called Jurjura; and its peaks, though they do not reach the stupendous altitude of those which tower above Morocco, are of such height, that the snow on their summits melts only in May. The western tracts, traversed by numberless streams of pure water descending from the Atlas, form perhaps the most finely irrigated country in the world. Desfontaines mentions a spot near Tremecen, where, in a circuit of two leagues, about 2000 springs occur. Yet the surface is too varied to allow this moisture to spread into swamps; it is only diffused so as to maintain a general verdure and fertility. None of these numerous streams, however, attain the character of rivers, except those which rise in the second range of Atlas, roll through the intermediate valley, and then force their way into the plain of Barbary. Such are the Seibouse, the Rummell, the Zeitoun, and the Shelliff, which last has an early course of nearly 100 miles through the mountain valley.

The territory of Algiers is thus greatly distinguished by natural fertility. With the exception of some arid and rocky plains, it consists of valleys covered with rich pastures, fitted for the best kinds of European grain, blooming with the orange and the myrtle, and producing olives, figs, and grapes of peculiar excellence and size. Noble forests of pistachio, of cypress, and of oak, cover the sides of the mountains. Yet the indolence of the people, the oppression of the government, the want of roads and interior communications, cause three-fourths of the country to be left uncultivated. Their oil, wine, and butter are all of inferior quality. They are not so wholly destitute of manufacturing industry. Skins are prepared and coloured in almost as perfect a manner as in Morocco. Their bonnets, shawls, and handkerchiefs are in request throughout the Levant. Baskets of palm-leaves, and mats of junk, are fashioned with singular elegance. Essence of roses is prepared with a skill little to be expected in such rude hands; but there is an extensive demand for the article in the voluptuous palaces of the East. The trade, before the French invasion, was almost entirely in the hands of the Jews, and consisted in the export of these manufactures, and of some grain, oil, wax, fruits, and wool. The Algerines took, in return, light cloths, glass, and toys, but showed a great preference for fire-arms and powder; while the European merchants have been reproached, not only for supplying them with these articles, but even for purchasing the proceeds of their piratical expeditions. The fishery of coral, carried on by European vessels, produces an annual value of about 100,000*l.*

That turbulent and piratical system of which Algiers was the centre, is now become a subject only of history. The country was long domineered over by a body of Turkish troops, not supposed to exceed 15,000, and who were recruited from the meanest classes in the ports of the Levant. This body, at short intervals, strangled the Dey, electing in his stead the boldest and bravest of their number. The corsairs formed a kind of separate republic, carrying on their barbarous trade under the sanction of the prince, who received a large share of the slaves and booty. These marauders, in 1815, suffered a severe chastisement from the American fleet; and from the English in 1816. Again, after they had for some time set France at defiance, that country, in 1830, fitted out a formidable expedition, by which Algiers was entirely subjugated. The French, however, have said very little as to any benefits derived from this acquisition. According to the statement made by M. Duboc, in his account of Oran in 1832 (*Annales des Voyages*), the Arabs, who inhabit nearly the whole of the territory, are in a state of constant hostility, either open or secret, against the French; they are masters of all the open country, and can assemble in a few days 30,000 men, skilled in partisan warfare; so that they keep the invaders nearly blockaded in the principal sea-ports. In these circumstances, colonisation, which was viewed as one of the objects of the expedition, has not been even attempted.

The population of this territory is judged of only by estimates, which are very wide of each other, varying between 1,000,000 and 3,000,000. A recent estimate in the Annales des Voyages, which seems to be made with some care, states, of Arab cultivators, 1,200,000; Independent Arabs, 400,000; Berbers, 200,000; Jews, 30,000; Turks, renegadoes, and their descendants, 40,000: in all, only 1,870,000. These are distributed into three great provinces: Titterie, in the centre; Tremecen, or Tlemsen, in the west; and Constantina, in the east.

Algiers, the capital, is situated in the province of Titterie, though without being considered as forming part of it. The streets are built on the declivity of an eminence facing the Mediterranean, and rising by successive stages above each other, with loftier hills above: they make thus a magnificent appearance; hence, too, it is said, almost every house commands a view of the sea. On entering the city, however, all this beauty disappears; and it is found a labyrinth of steep, narrow, and dirty lanes. There are, however, several splendid edifices, particularly the palace of the dey, and the principal mosques. The barracks are also fine structures, adorned with fountains and marble columns; and the naval arsenal is spacious and commodious. The bagnios, as the quarters formerly destined for the slaves were called, are huge, but gloomy and dirty edifices. The estimates of the population vary from 50,000 to 200,000; M. Balbi supposes 70,000.* The French expedition captured 2,000,000*l.* sterling in money, besides an ample supply of ships, artillery, and ammunition. The fortifications towards the sea are very strong, but on the land side by no means formidable; so that, when the French had effected a landing with a superior force, they soon became masters of Algiers.

In the western quarter of the Algerine territory, the most distinguished place is Tremecen, or Tlemsen, once the capital of a powerful kingdom, still containing about 20,000 inhabitants, situated in a beautiful and finely watered district. Mascara, about a mile in circuit, on the face of a mountain which commands the view of a fertile and well-cultivated plain, is an agreeable but ill-built city. Oran, on the sea-coast, long a subject of contention between the Moors and the Spaniards, remained in possession of the latter people till 1792. The fortifications have been injured by earthquakes; but the spacious magazines built of stone remain entire. It has a roadstead with good anchorage, but so exposed, that vessels are obliged to land their cargoes at the point of Mers el Keber, about a mile from the city. Oran is much declined; and, though the French have repaired some of the edifices, and converted an old mosque into an hospital, their occupation has hastened its decay, by inducing the whole of the Arab population to leave the place. The inhabitants are now about 4000. Arzew, on a gulf which affords a good harbour, is chiefly noted as containing the shattered ruins of the ancient Arsenaria. Dr. Shaw saw here a Corinthian capital supporting a smith's anvil, and through the rents of a ragged carpet he discovered a mosaic pavement. In its vicinity are large salt-pits. Tenis, also on the coast, once the metropolis of a little kingdom, consists now only of a few mud hovels. El Callah, in the interior, seated on an eminence amid branches of the Atlas, is remarkable, as well as its neighbourhood, for an extensive manufacture of carpets and bornouses. Medea and Bleeda, the chief places in the province of Titterie, are both flourishing, and surrounded by a fine country.

In the eastern part of Algiers, Constantina, celebrated under the name of Cirta, the ancient and strong capital of Numidia, ranks second to Algiers, and is supposed to contain about 15,000 inhabitants. It is boldly situated on a rock precipitous on one side, where it overhangs the broad stream of the Rummell. The surrounding country is fine; but the modern city presents nothing remarkable. The site, however, is distinguished by splendid monuments of antiquity; and the ground in one place is entirely covered with the remains of broken walls, columns, and cisterns. The bridge, still in good preservation, several gates, a triumphal arch, called by the natives the Giant's Castle, with various altars and other fragments adorned with Corinthian columns, and with rich friezes and sculpture, rank among the most elegant remains of classic antiquity. Boujeiah, celebrated as a strong and piratical sea-port, retains still marks of the breaches made upon the walls in 1671, when it was stormed by Sir Edward Sprague. The fortifications are now barely sufficient to hold the wandering Arabs in check; but it derives some importance from its iron manufactures, and the export of wax and oil. Bona, having its site covered with considerable remains of the ancient Hippo, was in modern times the chief settlement of the French African Company, which they lost during the revolutionary war. It derives consequence from the coral fishery carried on in its vicinity; and the same cause gives value to La Calle, and the neighbouring island of Tabarca, which were also long in possession of the French.

SUBSECT. 3.—*Tunis.*

Tunis has a territory very differently situated from that of Algiers. From the frontier of that country, the coast continues to extend eastward, with a slight inclination to the north, till it reaches Cape Bon, the most northerly point of Africa. It then makes a sudden bend southward, and, with some windings, follows that direction as far as Cape Jerbi for a space of about 250 miles. This coast, with the country reaching for upwards of 100 miles inland, composes the territory of Tunis. It is not so extensive as that of Algiers; but it is not so closely hemmed in by the branches of the Atlas, nor are they so steep or so lofty; and there intervenes between them and the sea a spacious plain, watered by the noble river Bagrada, or Mejerda, and profusely covered with all the riches of culture and vegetation. The people, also, though composed essentially of the same elements as those of Algiers, have imbibed a considerably greater share of polish and civilisation. The situation of the territory, projecting into the Mediterranean, and at an easy distance from the finest shores of southern Europe, fitted it to be the seat of the most celebrated commercial republic of antiquity. Carthage, by her commerce, rose to such grandeur as to dispute with Rome the empire of the world; and, even after being completely vanquished, and her walls levelled with the ground, she continued one of the chief Roman cities, and the capital of the African provinces. The Saracens, however, in the successive kingdoms which they founded, fixed their capital, first at Kairwan, and then at Tunis; and Carthage was entirely deserted. In the sixteenth century, Tunis was occupied by the corsair Barbarossa; and, notwithstanding a successful expedition by Charles V., was, in 1574, completely subjected to the Ottoman power. Since its decline, it was at first domineered over, like Algiers, by the Turkish soldiery; but the Beys, within the last half century, have succeeded in crushing the influence of this body, and have made themselves hereditary and almost absolute sovereigns. They have governed mildly, doing much to mitigate the former violent and bigoted system, and to introduce European improvements.

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* [These statements are much exaggerated. Before the occupation by the French the population was but 21,000; by a census of 1833 it was found to be 25,226, of whom 5,226 were Europeans.—AM. ED.]

The city of Tunis, only ten miles south-west from the site of Carthage, and on the same spacious bay, possesses all the advantages which raised that city to such a height of prosperity. It is, in fact, the largest place in Barbary, the population being estimated at from 100,000 to 130,000. It cannot, on the whole, be said to be well built, the streets being narrow, irregular, and dirty; yet the principal mosque is very spacious; and the new palace, constructed at great cost, in the Moorish style, is one of the finest edifices in Barbary, though with the incongruity of the ground floor being entirely composed of shops. This city has entirely renounced its piratical habits, and addicted itself to several branches of useful industry. There are extensive manufactures of velvets, silk stuffs, and the red caps generally worn in the Levant. The exportation of grain, absurdly prohibited in the other ports on this coast, is allowed under a tickery, or license from the dey, though at the exorbitant duty of 15s. a quarter on wheat. The Tunisian olive oil, being well packed, and not liable to become rancid, is in high estimation; and the wool of the south-eastern districts is said to be little inferior to the best Spanish. The soap, made from olive oil and barilla, is of excellent quality, and has no unpleasant smell. There is also a considerable traffic with interior Africa for its staples of gold, ivory, and ostrich feathers. Tunis takes a variety of European manufactures, East India stuffs, and colonial produce. That species of woollen cloth called scarlet long ells is the British commodity most in demand.

The remains of Carthage are a little to the east of Tunis; but no destruction can be more entire than that which has overwhelmed that celebrated city. The inquisitive traveller may even look over that renowned site, without perceiving that a city ever existed on it. Even the few broken walls which remain bear evident marks of Moorish construction. It is not till he penetrates into its subterranean recesses that he finds clear marks of ancient greatness. He then discovers the spacious cisterns in which water was retained for the use of the inhabitants; and he can trace the line of that stupendous aqueduct by which it was derived from mountains fifty miles distant. It is probable that farther traces might, by diligent search, be still detected.

Of the other cities of Tunis, the chief is Kairwan, or Cairoan, founded by the Saracens, and long the capital of their possessions in Northern Africa. The great mosque, supported by 500 granite columns, is said to be at once the most magnificent and the most revered of any in Africa. Tozer, on the lake of Lowdeah, is only a large village, but enriched by trade with the country of dates and interior Africa. On the north coast, Porto Farini, near which are the ruins of Utica, and Biserta, have both some trade in grain; though the fine harbour of the latter is now so choked up as to allow only small vessels to enter. Of the towns on the coast, reaching southward from Tunis, Almahdia is distinguished by the remains of a commerce which rendered it once the principal haven on this coast; Monasteer and Cabes by a flourishing modern trade, which gives to the one a population of 12,000, and to the other of 20,000. Sfax carries on traffic on a smaller scale; and the island of Jerbi is noted for manufacturing industry. Near El Gemme are the remains of a magnificent amphitheatre.

SUBSECT. 4.—*Tripoli.*

Tripoli presents a different aspect, and one by no means so grateful and smiling as the western regions of Barbary. That great mountain range, which has diffused through them verdure and fertility, terminates, and the great plain of sand which generally covers Northern Africa presses close upon the cultivated territory. The district in which the city stands forms only an oasis, and one not very extensive; and he who takes his departure from it in any direction finds himself soon in the heart of the desert. Tripoli thus cannot equal the other capitals of Barbary, and its population is not supposed to exceed 25,000. Even this is supported rather by commerce and industry, than by the limited productions of the soil. It is, however, the chief theatre of the intercourse with Bornou and Houssa, the most fertile countries in the interior of Africa; over which it exercises even a species of dominion. Fezzan, the great emporium of the caravan trade, is tributary to the pacha; and he possesses a powerful influence over the courts of Kouka and Sackatoo. This prince has shown a more enlightened spirit, a greater desire to cultivate intercourse with the European powers, and to introduce the improvements of civilised life, than any other in Barbary. A singular absence of that jealousy which usually actuates Mahometan courts has been displayed in the welcome given to the British expeditions of discovery, and the zeal displayed in promoting their objects. Tripoli cannot be called a fine city; yet its palace, and the generality of its mosques, have some beauty; and there is a triumphal arch and several other interesting remains of antiquity.

To the eastward of Tripoli, and in its close vicinity, begins a dreary portion of the Great Desert of Africa. A few days, however, bring the traveller to the district of Lebeda, where thick groves of olive and date are seen rising above the villages, and a great space is covered with luxuriant crops of grain. This territory is considered much superior to that round Tripoli, and was more highly prized by the ancients, who founded on it the flourishing colony of Leptis Magna. Remains of its magnificent edifices and shattered columns are still seen half buried under the sand which the wind and sea have accumulated over them; but the country people are daily carrying off the fragments, and using them as mill-stones. A similar country continues to Mesurata, to the east of which is also a plain singularly fertile, compared even by Herodotus to that of Babylon. Mesurata carries on a manufactory of carpets, and a considerable trade with Central Africa. At the termination of this plain commences the awful and desolate expanse of the Syrtis. Captain Beechey thus describes the opposite spectacle presented by the two points of view:—"To the west, endless groves of palm trees and olives, among which are scattered numerous villages and gardens, rich tracts of corn land, flocks of sheep and goats, and everywhere a moving and busy population; to the eastward, a tenantless and desolate waste, without a single object rising from its surface, lies stretched in one long and unbroken line, as far as the eye can reach."

The Gulf of Sert, or the Syrtis, about 400 miles in length, presents some striking features. For about forty miles it is bordered by a marsh covered with a thin saline crust, which often gives way beneath the horses' feet, and discovers hollow spaces, many of which are of great depth, with water at the bottom. This dangerous swamp, combined with the general sandy character of the region, seems to have suggested to the ancients the idea of quicksands, which they very decidedly attached to this shore; though it is positively stated that nothing is found in any part of it strictly answering to the term. At the end of this marsh, the Syrtic region, though extremely wild and dreary, affords from time to time little valleys, or detached spots, traversed by the Arabs with their flocks, herds, and moveable tents. The dangers of this gulf, painted by the ancients in such direful colours, consist in a flat and shallow coast, full of concealed rocks and banks, against which a heavy surf is continually breaking. The same perils still exist, increased by the heavy swell brought in by the north wind blowing across the greatest breadth of the Mediterranean; but this gulf, so terrible to the ancients, who were unable to navigate at any distance from land, and doomed by a fatal necessity to cross it on their way from Egypt to Carthage, is little dreaded by the moderns, who in this course systematically stand out to sea.

The ancient Cyrenaica, and modern Barca, commences at the termination of the Gulf of Syrtis, and exhibits a very improved aspect. It is traversed by a steep and high ridge abounding in springs which, according to Arab report, amount to 360, and sprinkle the surrounding desert with valleys of the most brilliant verdure and fertility. On this coast the Greeks founded Cyrene, one of their most flourishing colonies. At present it is abandoned by all civilised and industrious nations, and, with the exception of a few poor villages, is occupied exclusively by the wandering Arabs with their flocks and herds. Bengazi, the Hesperis of the earliest writers, the Berenice of the Ptolemies, is now only a miserable village. Every trace of the ancient city appears to have been buried under the sands of the surrounding desert. Yet the modern Arab still finds in it ample building materials: he begins to dig, and speedily arrives at fragments of splendid columns and rich entablatures. To suit his purpose, however, these must be pounded into minute portions: and the elegant volute, the rich triglyph, the flowering acanthus, are soon reduced into shapeless fragments, which, however, being ill cemented with mud, form by no means very secure habitations. The range of valleys east of Bengazi is singularly picturesque, their sides being in many places steep and rocky; yet every cleft filled with a brilliant vegetation. "The white pine and the olive," says M. Pacho, "adorn the sides of the mountains, whose summits are crowned with forests of thuja and arborescent juniper. The rocks, overhung with dark groves, present sepulchral grottoes, the only vestige of towns which have disappeared, with their ancient inhabitants. These pious excavations, the funeral tree which covers them, with the hoarse and savage songs of the Arabs, which are echoed from valley to valley, arrest the pensive traveller, and fill him with solemn and tender recollections." In this tract are found the two ancient, now entirely deserted, cities of Teuchira and Ptolemeta. The edifices of the former are entirely reduced to rubbish; yet its walls, a mile and a half in circuit, have, by their Cyclopean strength, resisted the powers of destruction, and form a very perfect specimen of ancient fortification. Ptolemeta has one magnificent gateway and the remains of an amphitheatre, two theatres, and of the columns and tessellated pavement of a palace. The area is covered partly with grain, partly with lofty shrubs; while the cry of the jackal and hyena, and the noise of owls and bats, alone afford any symptom of life.

The ruins of Cyrene itself, which may be said to be a recent discovery, form the most striking object in this remarkable region. They are finely situated on a high table plain, descending abruptly towards the sea, by successive stages, along each of which is a smooth, rocky path, still marked by the wheels of the ancient chariots. The view from the brow of the eminence, upwards of 2000 feet high, over the rocks, plains, and the distant Mediterranean, is singularly beautiful. There are the remains of a spacious amphitheatre, numerous statues, and several fine springs, particularly one called the Fountain of Apollo, much resorted to by the wandering Arabs; but the city is totally destitute of permanent inhabitants. The most remarkable feature in Cyrene consists of its necropolis or city of tombs (*fig.* 815.) Eight or nine rows of sepulchral grottoes are arranged in terraces along the mountain. Around them are grouped tombs and sarcophagi, rich in ornaments and inscriptions, and extending for a mile and a half along the roads, leading to Cyrene, so as to present the appearance of gay and splendid streets. Derne and Apollonia contain ruins of similar character, but not on so great a scale.

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Tombs of Cyrene.

The ancient Marmarica extends from this point eastward: a bleak region, destitute of those smiling groves of laurel and myrtle which crown the mountains of Cyrenaica. It is crowded with beasts and birds of prey; and human existence is indicated only by the bleating of distant flocks and the dark tent of the Arab. Yet there is cultivation in favoured spots; and the traces of cisterns and canals of irrigation mark the former existence of a civilised and even somewhat numerous population. M. Pacho estimates the Arabs of Marmarica at 38,000, those of Cyrenaica at 40,000; and the addition of those who wander over the Syrtis may perhaps raise the whole of this wandering population to 100,000.

CHAPTER VI.

WESTERN AFRICA.

Western Africa seems the only general name under which it is possible to comprise that wide range of coast, excluding the Great Desert, which extends along the Atlantic from the Senegal to the river of Benguela. The greater part is known to Europe under the appellation of Guinea, which, however, is confined to the shores of the vast gulf so called, commencing at Cape Mesurado. It even applies most strictly to the northern shores of that gulf, terminating with the rivers of Benin; for the term Lower Guinea, applied to Loango, Congo, and the neighbouring territories, is in much less frequent use. The territories on and between the Senegal and Gambia, are by the French called Senegambia; but these names are all European, and unknown to the natives. The whole region is split into a multitude of states, mostly small, and without any political connection. There is a general resemblance of climate, nature, aspect, and character, which justifies us in classing them under one head.

Sect. I.—*General Outline and Aspect.*

This immense range of maritime country is included between the thirteenth degree of south and the seventeenth degree of north latitude, forming thirty degrees in a direct line; but, allowance being made for the windings of the coast, and the deep bays by which it is indented, the entire length cannot be less than 4000 miles, running in a direction generally from north-west to south-east. The breadth varies much more; indeed, it is founded upon an arbitrary division, which Europeans have made between Western and Central Africa; vague regions, which are separated by no precise line of demarcation. In general, the boundary fixed by nature seems marked by the heads of the rivers that fall into the Atlantic. This dimension has been ascertained in the case of the Senegal and Gambia, and forms a depth of 700 or 800 miles, on the other side of which lies the upper course of the Niger. In the lower course of that great river, as now ascertained, no such line can be drawn; and the extensive countries situated on its banks belong in their character and relations so decidedly to Central Africa, that the region so called, must, in this quarter, be brought much nearer to the coast. Immense deserts bound this maritime district, both at its northern and southern extremity.

The coast of Western Africa presents, in general, a flat surface, though Cape Verd, and some others, project bold headlands into the ocean. All the great ranges of mountains are in the interior, and their line and position are still imperfectly ascertained. The most important is that very extended chain, in the interior of Senegambia, usually called the Mountains of Kong, which appears in some measure to stretch across the continent, till it connects with the Mountains of the Moon, on the opposite side of Africa. This chain, running from east to west, becomes parallel to those coasts, which form the northern boundary of the Gulf of Guinea. Congo is, in many parts, rugged and hilly; and there are, undoubtedly, great chains of mountains in the interior.

The western rivers of Africa are conspicuous features, though not of that immense magnitude which has been sometimes imagined. The Senegal is no longer identified with the Niger, nor supposed to draw its waters from the interior depths of the continent; but it is about 900 miles in length from its source, in the western extremity of the Mountains of Kong, not very far distant from that of the Niger. Its early course is swelled by numerous streams from the same mountains, among which the Ba-fing, the Ba-lee, and the Faleme, are the most important. After passing Gallam and the falls of Felu, it descends into a dead level, and rolls along the borders of the desert, till, near Fort Louis, it finds a passage, obstructed by heavy bars of sand, into the Atlantic. The Gambia rises from a point of the same chain not very distant, and rolls a more powerful and rapid stream, forming at its mouth a considerable estuary; but its course is not more than two-thirds of that of the Senegal. The Rio Grande, and the Mesurado, which come down from the southern side of the same mountains, have not attained the character of streams of the first order when they reach the sea. The waters of the ivory and gold coasts of Guinea are little better than mountain torrents, pouring down from the high grounds; but from the western limit of Whidah to Calabar, a space of above 200 miles, the Gulf of Benin receives a continued succession of large estuaries, which convert the whole territory into alluvial and partially inundated islands. These channels, the sources of which were long the subject of conjecture, are now, by the discoveries of Lander, ascertained to compose the delta of the Niger; though the course of that mighty river must be considered as belonging to the central regions of Africa. Farther south, the Congo or Zaire, pours its ample volume of waters into the Atlantic, which it freshens to a considerable distance; but though the expedition under Captain Tuckey penetrated nearly 300 miles upwards, the higher part of its course is still enveloped in mystery. The Coanza likewise appears to come from a considerable distance in the interior, and may rank high among rivers of the second class.

The waters of Western Africa do not accumulate into lakes of any importance.

Sect. II.—*Natural Geography.*

Subsect. 1.—*Geology.*

Western Africa.—The African coast, from Sierra Leone to the mouth of the Orange River, is very imperfectly known in a geological view. The hills around Sierra Leone are said to be of granite; the geology of the grain coast and ivory coast of Guinea is unknown, and nothing satisfactory can be offered in regard to the slave coast. In Benin there are mountains (those of Camaroon, on the sea-coast), said to be 13,000 feet high. The extensive district through which the Zaïre flows was examined during part of its course, and the rocks met with are granite, syenite, primitive greenstone, gneiss, mica slate, clay slate, and primitive limestone or marble. The kingdom of Angola is remarkable for the great extent of its salt mines; it also affords copper and iron. The mines of Loango and Benguela, so often mentioned by travellers, afford principally iron ores.

Subsect. 2.—*Botany.*

Western Africa, containing, as it does, a vast extent of country, both in the northern and southern hemispheres, including the tropics, must, of course, possess an extremely varied vegetation, of which, unfortunately, a very great portion is unknown. Islands present a more interesting field for the geographical distribution of plants, than the continent. In the first place, therefore, we shall offer a few remarks upon that of Madeira, which we are the better enabled to do from the observations of Dr. Kuhl, given in the *Botanische Zeitung*, and the interest of which is increased from the relative situation of this speck in the ocean being such as to form the connecting link between the vegetation of Europe and that of the western continent of Africa, to which country it naturally belongs. "Here," says this traveller, "every stranger must be struck with the entire absence of Oaks, Firs, Birch, Willows, &c. All our European fruits are cultivated; but such as are not planted in a soil that is properly manured, are far inferior to ours in point of flavour; at least those we had the opportunity of eating. The Grapes, indeed, must be excepted, which possess much richness, and are mostly red. The wine is a true claret, and the good old Madeira has the exact colour of Rhenish wine. The red, which is not a claret, is rare. All the native trees have coriaceous leaves, and one only bears an esculent fruit, which is an arborescent Vaccinium (*V. padifolium* Smith), the rest have been introduced by the Portuguese. One single species of Fir, it is said, was found on the island when it was discovered; but that was soon extirpated by the use made of it in building, for which purpose the Chestnut is now employed and cultivated. Of the thick stems of the arborescent Heaths (*Ericæ*), which crown the top of the Pico Ruivo, and whose wood is of a beautiful red colour, they make props for their vines, which are not, as with us, trained upright; but horizontally, just above the ground, forming a green covering. As the climate of the respective regions varies according to the relative heights of the mountains, so we meet with very different plants at different elevations, and the several belts, or regions, may thus be characterised:—

"1. Region of the Cacti, which, according to our calculations, reaches to an elevation of 630 feet above the level of the sea.—Von Buch gives the same extent to this region at Teneriffe. In Madeira, however, the succulent *Euphorbiaceæ* and other African plants, which abound in Teneriffe, are wanting. The Indian or Prickly Fig (*Cactus Opuntia*), grows alone upon the bare rocks, and Vines, Canes, Figs, Arums, Musæ, and other southern fruits, are cultivated in the fields. This district is rich in wild plants: we found one *Cryptogamous* species, Adiantum Capillus Veneris (*fig.* 816.); seven *Monocotyledones*, viz. three Panica, a Cynodon, Andropogon, Setaria, and Milium; sixty *Dicotyledones*, among which (besides the genera which abound with us, such as *Rumex*, *Convolvulus*, &c.) were Crotalaria, Physalis, Asclepias, Helminthia, Atractylis, Ageratum, Sida, Myrtus, Cassia, &c. The Pomegranates, Figs, and Bananas, which are planted about the houses, together with the bright green of the Arums, gave a singular charm to this district. Of the sixty-eight species now enumerated, seventeen extended as far as the region of the Vine, and only two of them were met with again, at a height of 5300 feet.

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Adiantum Capillus Veneris.

"2. *Region of the Vine.*—The culture of this plant may be said to commence at the sea-shore; but the Cactus does not accompany it above 630 feet. The vine ascends to an elevation of 2030 feet; but higher than that the fruit will not ripen. In this region, the Arum, Cane, Mulberry, &c., Potatoes, Corn, and Onions, are cultivated; but not the Bananas and Cacti. The hedges consist of Myrtle and Chestnut. Agriculture is more successfully carried on here than elsewhere; on which account, few wild plants are met with, but such as we had already found in the lower region, and of those, three that grew at a still higher elevation.

"3. *Region of the Chestnut.*—This commences at 2030 feet, and is eminently distinguished by the tall stout stems of the Chestnut, which tree ascends to about 2950 feet. Those that are found still higher, are smaller, distorted, and bear no fruit. We staid longest in this region, and our success in collecting plants was proportionably great. We found twenty-three *Cryptogamiæ*, viz. twelve Ferns (one *Darea* and *Woodwardia*), five Lichens, Anthoceros, Marchantia, Boletus, two Jungermanniæ:—twelve *Monocotyledones* of our common genera; only one Carex, and a beautiful Cyperus:—sixty-six *Dictyledones*, viz. five Rumices, Clethra, Lobelia, Andryale, Chamæmelum, an arborescent Euphorbia, two shrubby species of Teucrium, Cineraria, Disandra. We found nine of these species in the next region.

"4. *Region of the Spartium.*—This terminated at a height of 3920 feet, and is singularly poor in its vegetation. We found but one plant we had not seen before, or did not meet afterwards in the following region. The whole region is covered with Spartium alone.

"5. *Region of the Heath* (*Erica*).—This extends to the summit of Pico Ruivo, the highest point in the whole island, and, according to our reckoning, 5300 feet above the level of the sea. It is very rich in interesting plants. Towards the centre of it are trees with coriaceous leaves, an arborescent Vaccinium, and two trees, called Till and Vintratico, which for want of flowers, we could not determine. Between the fourth and fifth region is a tract almost covered with Pteris aquilina, and some other Ferns, especially another Pteris On many ridges, these abound to the exclusion of all other plants, and remarkably so at a height of 3920 to 4080 feet; while below them the Spartium, and above them the Ericas, maintain possession of the soil. But again, not far from the top of the Pico, is a tract where the Ericas are supplanted by the Spartium; only, however, for a short space, for the summit is covered by the thick stems of the Heaths. Besides fifteen species, common to the lower regions, we found, of *Acotyledones*, twelve; Peziza and Lichens:—seven *Monocotyledones*, among them two Sciuri, two species of Cynosurus, an Aira and Agrostis:—thirty-seven *Dicotyledones*, among them a Sideritis, a beautiful shrubby Echium, with a blue spike, Crocodylium, Pyrethrum, Phyllis, two Semperviva, Sedum, Cotyledon, &c. There is no Pine Region. It would take too much space to name all the genera we collected: but a comparison of the relative proportion they bear to one another, shows the island to be deficient in the northern families of Amentaceæ, Saxifrages, and Caryophylleæ, especially the second. It is poor, likewise, in the predominant families of the tropics, the Euphorbiaceæ, Malvaceæ, and Corymbiferæ, which latter are only in the proportion of 1 to 19; but at the Cape, 1 to 5, and, in other equatorial countries, 1 to 6. But the Cichoraceæ, which belong to the temperate zone, are here numerous. In our walks on the shore, we found whole banks of Fuci."

In the same way does the celebrated Humboldt divide the famous Peak of Teneriffe, in the Canary Islands, into five zones, to which he gives the name of the Region of Vines, the Region of Laurels, the Region of Firs, the Region of the Retama (*Spartium nubigenum*), and the Region of the Gramineæ. These zones, which lie one above another, like terraces, occupy an elevation of 10,500 feet on the steep sides of the Peak; while, fifteen degrees more northerly, on the Pyrenees, the snow covers all, above the height of 7800 to 8400 feet. If vegetation does not, at Teneriffe, reach the very summit of the volcano, it is not because eternal snows and a cold atmosphere prevent it; but because lava and pumice-stone do not admit of plants growing upon the very brink of the crater.

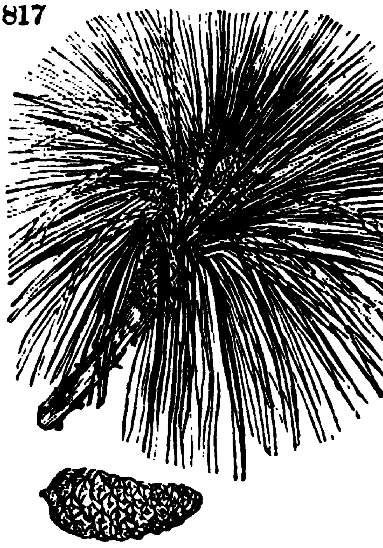
The first Zone, that of the Vine, extends from the sea-side to a height of from 1200 to 1800 feet: it is the most inhabited, and the only one where the soil is carefully cultivated. In these low regions, at the sea-port of Orotava, and wherever the winds have a free access, the thermometer never rises so high in summer, nor falls so low in winter, as at Paris and Petersburg; as was ascertained by observations made by M. Savaggi, in 1795 to 1799. The climate seems to hold a mean between that of Naples and the Torrid Zone. In spite of the analogy existing between the climate of Madeira and Teneriffe, the plants of the former island are in general much less delicate, when cultivated in Europe, than those of Teneriffe. Thus Cheiranthus longifolius, from Orotava, is killed by the cold at Montpelier, and C. mutabilis, of Madeira, stands there in the open air all winter. The summer heats are shorter at Madeira than at Teneriffe.

The Region of Vines presents, among its vegetable productions, eight kinds of arborescent Euphorbias, some Mesembryanthemums, which abound from the Peloponnesus to the Cape of Good Hope, the Cacalia Kleinia, the Dragon tree, and other plants, whose naked and tortuous stems, succulent foliage, and glaucous hue, indicate the vegetation of Africa. In this zone are the Date, the Banana, the Sugar Cane, the Indian Fig, the Arum Colocasia, whose roots afford the lower classes a wholesome farinaceous food, the Olive, the European fruit trees, the Vine, and the Cerealia. The corn is cut from the end of March to the beginning of May, and the Bread-fruit tree promises to succeed well, as also the Cinnamon tree from the Moluccas, the Arabian Coffee, and the American Cocoa-Nut. At many parts of the coast, the landscape presents all the character of a tropical scene, and the Region of Palms may be easily seen to extend far beyond the Torrid Zone. The Palmetto and the Date grow very well on the fertile plains of Murviedro on the coast of Genoa, and in Provence, near Antibes; some trees of the latter, planted within the limits of the city of Rome, resist even the cold of 2.5° below the freezing point. But if Western Europe shares but little in the productions that grace the zone of the Palms; the island of Teneriffe, placed under the parallel of Egypt, of Southern Persia, and of Florida, glows with almost all the vegetable glories which enhance the majesty of Equatorial Regions. Among its indigenous plants, however, the trees with pinnated foliage, and the arborescent Gramineæ, do not appear; nor has any species of the numerous family of Sensitive Plants migrated so far as the Canary Islands.

The second Zone, that of the Laurels, includes the wooded portion of Teneriffe: it also is the region of the springs, which bubble up in its ever-verdant turf. Splendid forests crown the hills which adjoin the volcano; among them are four species of Laurel, an Oak, very similar to Quercus Turneri of Thibet, the Visnei Mocanera, the Myrica Faya of the Azores, an indigenous Olive (*Olea excelsa*), the largest tree in this zone, two species of Sideroxylon with beautiful foliage, Arbutus callicarpa, and other evergreen trees of the myrtle tribe. Climbers, and an ivy quite different from that of Europe (*Hedera canariensis*) twine round the stems of the Laurels, at the foot of which grow numberless Ferns, of which but three species grow so low as in the Vine Region. Everywhere the soil, which is covered with mosses and fine grass, shines with the blossoms of the golden Campanula (*C. aurea*), of Chrysanthemum pinnatifidum, Mentha canariensis, and several shrubby kinds of Hypericum. Plantations of wild and grafted Chestnuts form a broad band round the region of the springs of water, which is the most verdant and agreeable of all.

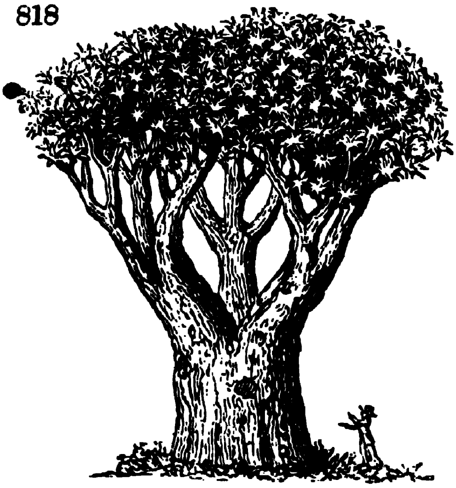
The third Zone, or Region of Firs, begins at an elevation of 5400 feet, and there the last groups of Arbutus, of Myrica Faya, and the fine Heath, which the natives call Texo, disappear. This zone, about 2400 feet in extent, is wholly occupied by a vast forest of Firs, mingled with the Juniperus Cedro of Broussonet. The Firs (*Pinus canariensis* Von Buch) (*fig.* 817.) have very long and stiff leaves, which often grow in pairs, but more frequently three in each sheath. As we had no opportunity of examining the fruit, we are ignorant if this species, which has all the habit of the Scotch Fir, is truly distinct from the eighteen species of Pinus which are already known in the Old World. A celebrated traveller, who has much advanced the cause of science, M. De Candolle, considers the Fir of Teneriffe as alike distinct from Pinus atlantica and P. halepensis. On the slope of the Peak, at 7200 feet, we saw the last Firs: on the Cordilleras of New Spain, under the Torrid Zone, the Mexican Fir grew at an elevation of 12,000 feet. But whatever may be the analogy existing between different species of the same genus, each requires, for its perfect developement, a certain degree of temperature and of rarefaction of the atmosphere.

817



Pinus Canariensis.

818



Dragon's-Blood Tree.

The fourth and fifth Zones, the Regions of the Retama and the Gramineæ, occupy an elevation corresponding with the highest and most inaccessible points of the Pyrenean mountains. This is the desert portion of the island, where masses of pumice-stone, obsidian, and shivered lava, forbid the progress of vegetation. We have already alluded to the flowery tufts of alpine Broom (*Spartium nubigenum*), which form so many oases in this vast wilderness of ashes. Two herbaceous plants, Scrophularia glabrata and Viola cheiranthifolia, rise somewhat higher. Beyond the scanty grass which is parched up by an African sun, Cladonia paschalis covers the arid soil; and the shepherds often set it on fire, till the blaze extends to considerable distances. Towards the summit of the peak, Urceolarias and other individuals of the Lichen family are always tending to effect the decomposition of the scorified matter. Thus, by an uninterrupted action of organic force, the empire of Flora is continually gaining ground on these islands, whose whole structure has been, as it were, deranged by volcanic fire.

It is in the Canary Islands that the Dragon's-blood tree (*fig.* 818.) appears to arrive at its highest degree of perfection, and to attain a most astonishing size. "This gigantic tree," as is observed by M. de Humboldt, that first of travellers, in his Tableaux de la Nature, when speaking of a very celebrated specimen of the Dragon's-blood tree, "is now included within the precincts of M. Franchi's garden, in the small town of Orotava, one of the most delicious spots in the world. In 1799, when we climbed the Peak of Teneriffe, we found that this enormous vegetable was forty-five feet in circumference, a little above the root. Sir George Staunton affirms that, at ten feet high, its diameter is twelve feet. Tradition relates that this particular Dracæna was venerated by the Guanchos, as the Elm of Ephesus was by the Greeks; and that in A. D. 1400 it was as large and as hollow as it is now. The gigantic Dragon's-blood tree, which I saw in the Canaries, was sixteen feet in diameter, and, enjoying a perpetual youth, was loaded with flowers and fruit. When the MM. Bethencourt, French adventurers, conquered the Fortunate Islands, in the fifteenth century, the Dracæna of Orotava, as sacred in the eyes of the natives as the Olive tree that grew in the citadel of Athens, was of colossal dimensions, as it is now. In the Torrid Zone, a forest of Cæsalpinia and Hymenæa is perhaps the monument of 1000 years. As the growth of the Dragon tree is extremely slow, we may be sure that the Orotava tree is extremely old. Doubtless this tree and the Baobab are the oldest inhabitants of our planet. It is singular that the Dragon's-blood tree has been cultivated in the Canaries, Madeira, and the isles of Porto Santo, from the remotest antiquity, though originally derived from India. This fact contradicts the assertion of those who represent the Guanchos as a race of men of the Atlantic, who were completely insulated, and had no intercourse with the people of Asia and Africa."

The trunk of the Dracæna Draco cleaves open in many parts, and distils, at the time of the summer solstice, a fluid, which condenses into red tears, soft at first, afterwards hard and friable: this is the true Dragon's-blood of the shops, and must not be confounded, though dry, friable, blood-red, and inflammable, with other resinous substances known under the same name, and derived, the one from a species of Calamus (*Rotang*), and the other from a Pterocarpus. To the Dragon's-blood are attributed astringent, desicatory, and incrassating virtues. It is administered internally for dysentery, hæmorrhage, violent bowel complaints, and inward ulcers; and externally, to dry up running sores, to heal wounds, and to strengthen the gums. The painters make use of it, in the red varnish with which they colour the Chinese boxes and chests.

Our observations upon the vegetation of the coast itself, of Western Africa, must be very brief, and chiefly confined to the Tropics; while for a more full account we must refer to a learned paper, by Dr. Robert Brown, given in the Appendix to Tuckey's Voyage to the Congo, and content ourselves with little more than a few extracts from that paper, on a comparison of the vegetation along the line of the Congo, with that of other parts of the West Coast of Equinoctial Africa.

It appears that from the river Senegal, in about 16° N. lat., to the Congo, which is in upwards of 6° S. lat., there is a remarkable uniformity of vegetation, not only as to principal orders and genera, but even, to a considerable extent, in the species of which it consists. More than one-third part of the plants from the Congo have been observed previously on various parts of the coast. Many of the trees, the Palms, and several other remarkable plants, which characterise the landscape, as Adansonia, Bombax pentandrum, Elais guineensis, Raphia vinifera, and Pandanus Candelabrum (*fig.* 819.) appear to be very general along the whole extent of coast. Sterculia acuminata, the seed of which is the Cola, mentioned in the earliest accounts of Congo, exists, and is equally valued, in Guinea and Sierra Leone, and, what is remarkable, it bears the same name throughout the West Coast. The Ordeal Tree, called, by Professor Smith, Cassa, and by Captain Tuckey, erroneously, a Cassia, if not absolutely the same plant as the Red Water Tree of Sierra Leone and the Gold Coast, belongs at least to the same genus. A species of the Cream Fruit, remarkable in affording a wholesome and pleasant saccharine fluid, used by the natives of Sierra Leone to quench their thirst, though belonging to that generally deleterious family the Apocyneæ, was also met with. The Sarcocephalus of Afzelius, which is probably what he has noticed under the name of the Country-fig of Sierra Leone, was found on the banks of the Congo. Anona senegalensis, whose fruit, though smaller than that of the cultivated species, is said to have a flavour superior to them all, appears to be a general plant along the whole extent of coast; and Chrysobalanus Icaco, or a nearly allied species, is equally common from Senegal to Congo.

819

Pandanus Candelabrum.

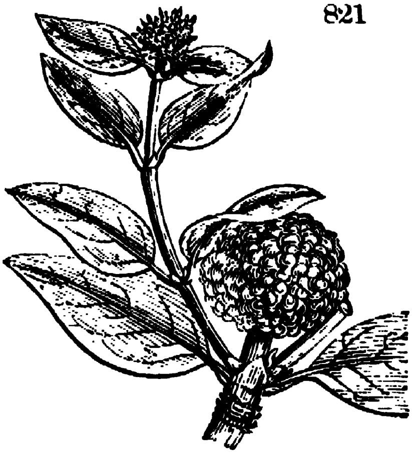
We may here introduce a few remarks on the Esculent Plants of the Congo; the cultivated, as well as the indigenous species, being very similar throughout the West Coast. On the banks of the river, the principal articles of vegetable food were the Indian Corn, or Maize (*Zea Mays*), Cassava, both sweet and bitter (*Jatropha Manihot*), two kinds of Pulse extensively cultivated; the Cytisus Cajan, and a Phaseolus (?), with Ground Nuts (*Arachis hypogæa*). The most valuable fruits are Plantains (*Musa sapientum*), the Papaw (*Carica Papaya*), Pumpkins (*Cucurbita Pepo*), Limes and Oranges, Pine Apples, the Common Tamarind, and Safu, a fruit the size of a small plum, which was not seen ripe. One of the most important plants, not only of the Congo, but of the whole extent of coast, is Elais guineensis (*fig.* 820.), or the Oil-Palm, which also affords the best Palm Wine. Wine is likewise obtained from two other Palms, Raphia vinifera (?) and a Corypha (?). Among the other alimentary plants, of less importance, or imperfectly known, are the Shrubby Holcus, the common Yam, only seen near Cooloo; and another Dioscera, found wild only, and very inferior to the Yam, requiring, it is said, four days' boiling to free it from its pernicious qualities. On Mr. Lockhart's authority, two kinds of Sugar Canes and Cabbages were seen sparingly; Capsicum and Tobacco are generally cultivated, and in the herbarium is a specimen of Malaghetta Pepper. A second kind of Ground Nut or Pea (*Glycine subterranea!*) which is extensively grown at Madagascar, also appeared. A species of Ximenia (*X. americana?*) was likewise found; the fruit yellow, the size of a plum, and acid, but not unpleasant, in the higher parts of the river, where it is generally planted. An Antidesma, perhaps like that mentioned by Afzelius, as having a fruit of the same size and taste as a currant, is also in the herbarium.

It is particularly deserving of notice that most of the above plants, enumerated as cultivated on the Congo, and especially the important species, have probably been introduced, and do not even belong to the continent of Africa. Thus Maize, Manioc, or Cassava, and Pine Apples, have been brought from America, as also, perhaps, Papaw, Capsicum, and Tobacco; while the Banana or Plantain, the Lime, the Orange, the Tamarind, and the Sugar-Cane, may be considered as of Asiatic origin.

820

Elais Guineensis.

821



Sarcocephalus Esculentus.

In connection with these observations of Mr. Brown's, we may here introduce a list of the Edible Fruits of Sierra Leone, drawn up by Joseph Sabine, Esq., from the Journal and Notes of Mr. George Don, who was charged by the Horticultural Society of London to collect the useful vegetables of that most interesting country.

The Peach of the Negroes (*Sarcocephalus esculentus*) (*fig.* 821.) is a large, fleshy, and solid fruit, hard and eatable throughout, and full of small seeds, not much unlike a strawberry in flavour and consistence. The tree grows plentifully throughout the colony of Sierra Leone, 10 to 15 feet high; the leaves are large and elliptical, the flowers pink, produced in globular heads, and seated on a receptacle which afterwards becomes the fruit. The Anona senegalensis, or African Custard Apple, of which the fruit is not much larger than a pigeon's egg, and with the same or a superior flavour to the rest of the species. The Monkey-bread (*Adansonia digitata*) is much used by the negroes: its fruit, which is of considerable size, and of an oblong shape, is full of seeds, and tastes like gingerbread, with a pleasant acid flavour. The Locust Tree of Sierra Leone (*Inga biglobosa*) is a beautiful tree when in blossom, covered with compact biglobular heads of fine vermilion-coloured flowers; which are succeeded by compact bunches of pods, containing a yellow farinaceous substance, of which the natives are very fond. It is mentioned by Park as affording an agreeable and nutritive food. The Country Cherry is rare, growing on the mountains, and bearing a small oval reddish fruit, somewhat like a Plum in flavour, and produced in clusters on the topmost branches. Anisophyllea laurina, the Monkey Apple, is a fruit of the size of a pigeon's egg, red on one side and yellow on the other, with a flavour between the nectarine and plum. Country Grapes are the produce of Vitis cæsia: they are black, austere, and acid, chiefly eaten by the negroes. Country Currants resemble elderberries, and are found plentifully on the mountains. The shrub (*Ficus Brassii*) which bears the Large Fig, grows about the colony: the fruit would be very pleasant, if the ants did not generally get in and spoil it; and the same may be said of a smaller fig, that bears abundantly, and is the size of a hazel nut. Afzelius speaks of Wild Guavas (*Psidium pyriferum*) as natives of this country, and Mr. Don saw and tasted the fruit, but he could not exactly identify the plant with the West

Indian Guava. The Hog Plum is the fruit of Spondias Myrobalanus; it is well tasted, and sharper than the plum of our gardens, but the stone forms half the bulk of the fruit. The Gray Plum tree (*Parinarium excelsum*) is more valuable for its compact and durable wood than for the fruit, which, though large and abundant, is dry and farinaceous, with a very large stone: an allied species, P. macrophyllum, is called by the colonists Gingerbread Plum. Of four other fruits called Plums, the Small Pigeon Plum (*Chrysobalanus ellipticus*), the Yellow Pigeon Plum (*C. luteus*), the Black Plum (*Vitex umbrosa*), and the Sugar Plum, it may be said that the first three, though good, are inferior to the latter, which is sold in large quantities in Sierra Leone, and is one of the very best fruits in the colony. The tree is very handsome, sixty feet high, and bears many fruits of the size of a bullace: at ten feet from the ground, the stem throws out roots like a mangrove or Pandanus, but its botanical affinities are not known. From the fruit of the Sweet Pishamin (*Carpodinis dulcis*), a quantity of sweet milky juice exudes, the pulp is also pleasant and sweet: the Sour Pishamin (*C. acidus*) though sharp, acid, and rather bitter, is much relished by the natives. The Mammee Apple (*Mammea africana*) is a lofty tree, with useful wood and a very large fruit. The Butter and Tallow Tree (*Pentadesma butyracea*) abounds in a yellow greasy juice, to which it owes its name, and which is given out plentifully when the fruit is cut; this is mixed by the natives with their food, on account of its turpentine flavour, which renders it disagreeable to the European settlers. Two kinds of Star Apple (*Chrysophyllum macrophyllum* and *C. obovatum*) are very inferior to the West Indian Star Apple (*C. Cainito*). Tonsella pyriformis bears a rich and sweet fruit like a bergamot pear. There is a tree called Pomegranate, said to be excellent: but having no affinity to Punica. The seeds of Sterculia acuminata are called Cola by the negroes, who hold them in great esteem, as possessing the same virtues as Peruvian bark. They are like horsechestnuts, and produced in pods, which grow two to five together. A somewhat similar seed, named Tola, is used in the same way. Velvet Tamarinds, the fruit of Codarium acutifolium, are produced in beautifully black velvety pods, and possess an agreeably acid taste, while Brown Tamarinds differ little except in the colour and larger size of the pod. Pine Apples (*fig.* 822.) both grow wild and are cultivated by the natives: they abound in the woods, so as to obstruct the passage through them in every direction, shooting most vigorously, and yielding fruit abundantly. The profusion in which these plants are seen, even in unfrequented spots, sanctions the common opinion of the colonists, that they are indigenous to the soil; contrary to the doctrine of scientific botanists, who maintain that Pine Apples have been carried from America into Africa and Asia; yet it is remarkable how such an exotic can have assumed all the characters of a native, and even sported into varieties, strikingly different from the appearance of the plant in the country of which it is supposed to be the original inhabitant. Two kinds only, the Black and White, are grown at Sierra Leone: though not so large as those cultivated in England, the flavour is superior. The wild varieties are innumerable; and a very pleasant kind of wine is made in the colony from the juice. Besides the fruits already mentioned as found wild near Sierra Leone, the following are cultivated: Plantains (*Musa sapientum*), Bananas (*M. paradisiaca*); the Cocoa Nuts are still rare, and Papaws (*Carica Papaya*) are only seen near the settlers' houses. Oranges are abundant, and have now grown wild: Lemons are rare, but Limes plentiful. Cashew Nuts have been cultivated in large quantities of late: Rose Apples (*Eugenia Jambos*), and Tamarinds from the West Indies, Love Apples (*Solanum Lycopersicon*), Melons, Water-Melons, Cucumbers, Gourds, &c. of many kinds and qualities; among the Melons, some which having the smell of Musk are called Musk Melons. Two sorts of Capsicum are grown, and do not appear to be natives of the country.

822

Pine Apple.

The Baobab, or Monkey Bread, above mentioned (*Adansonia digitata*), may be deemed one of the most valuable productions of Western Africa. It is likewise said to be found in Egypt and Abyssinia, and is cultivated in many of the warmer parts of the world. There seems to be no question that it is the largest known tree; its trunk being sometimes no less than thirty feet in diameter. Many interesting particulars of this tree are given in Adanson's account of his visit to Senegal, especially respecting its size and great age, whence it has been called *arbre de mille ans*. The height of its trunk by no means corresponds with the thickness which it attains, according to Adanson's calculations, which go to prove that its successive growth from one year old, when its diameter is one inch, and its height five inches, to 30 years old, when the diameter has attained to two feet, while the height is but 22 feet; and so on, till, at 1000 years old, the Baobab is 14 feet broad, and 58 feet high; and at 5000 years, the growth laterally has so outstripped its perpendicular progress, that the trunk will be 30 feet in diameter, and only 73 feet in height. We must confess that the disproportion is truly enormous. The roots, again, are of a most extraordinary length; so that, in a tree with a stem 77 feet round, the main branch or tap root, measures 110 feet in length. A figure of the whole tree may be seen in a beautiful vignette (p. 141.) of Lord Macartney's Embassy to China, drawn from a fine specimen in one of the Cape de Verd Islands. The foliage there, indeed, is not so abundant as to conceal the vast proportion of the trunk; but it often happens that the profusion of leaves and of drooping boughs almost hide the stem, and the whole forms a hemispherical mass of verdure, 140 to 150 feet in diameter, and 60 to 70 feet high. The wood is pale-coloured, light, and soft, so that in Abyssinia, the wild bees perforate it, and lodge their honey in the hollow, which honey is considered the best in the country. The negroes on the western coast, again, apply these trunks to a very extraordinary purpose. The tree is liable to be attacked by a fungus, which, vegetating in the woody part, without changing the colour or appearance, destroys life, and renders the part so attacked as soft as the pith of trees in general. Such trunks are then hollowed into chambers, and within them are suspended the dead bodies of those to whom are refused the honour of burial. There they become mummies, perfectly dry and well preserved, without further preparation or embalming, and are known by the name of Guiriots. The Baobab, like all plants of the same Order (*Malvaceæ*) is emollient and mucilaginous. The pulverised leaves constitute *lalo*, a favourite article with the natives, which they mix with their daily food, to diminish excessive perspiration, and which is even used by Europeans in fevers, diarrhœas, &c. The fruit is perhaps the most useful part of this tree; its pulp is acid and agreeable, and the juice expressed from it, mixed with sugar, constitutes a drink that is deemed a specific in putrid and pestilential fevers. Owing to these circumstances, the fruit forms an article of commerce. Bowdich mentions that it possesses such an agreeable flavour, and is so abundant, that it constitutes a principal article of food with the natives, who season many of their dishes with it, especially their corn gruel. The Mandingoes convey it to the eastern and southern districts of Africa, and through the medium of the Arabs, it reaches Morocco, and even Egypt. If the fruit be injured, it is burned, the ashes being mixed with rancid palm oil, and serving for soap. The flowers are large, white, and handsome, and on their first expansion, bear some resemblance, in their snowy petals and violet mass of stamens, to the White Poppy (*Papaver somniferum*). Both the flowers and fruit are pendent. The Baobab tree loses its leaves before the periodical rains come on.

823

Arachis Hypogæa.

The Arachis hypogæa (*fig.* 823.) deserves notice on account of the singular economy of its fruits. It belongs to the very few plants which mature their seeds under ground; the flower-stalk, after the blossom has withered, bending downwards, and burying the germen in the soil, where it soon increases in bulk, and perfectly ripens. The fruit is a pod, containing one or two seeds, the size of small nuts, with a flavour of almonds; the natives of several countries eat them, either boiled or fried, and make very pleasant confections of them, the taste resembling chocolate. A valuable oil is also extracted from the seeds of the Arachis, alike useful in food and for supplying lamps, as it never turns rancid. Many attempts have been made to naturalise this plant in Europe; but the climate is too cold for it everywhere north of the southern coast of France.

Subsect. 3.—*Zoology.*

Our remarks on the Zoology of this portion of Africa must be chiefly confined to Senegal, the neighbouring coasts of Guinea, and the colony of Sierra Leone: these, in short, are the only districts hitherto visited by naturalists, whose researches, moreover, have been but slight, and confined to the districts immediately surrounding the European factories. Yet, whatever may be the nature of the interior zoology, that of the coast is strikingly distinguished from Northern Africa. A rich vegetable soil, and a luxuriance of foliage, are here not uncommon; heavy rains are perpetually nourishing the earth, and animal life is multiplied under a variety of new and striking forms, totally unknown in the arid and sandy deserts of Northern Africa. We may thus safely consider the Great Desert as a natural demarcation between the zoology of the two regions; but under what degree of latitude we may fix the commencement of the southern zoological range, it is impossible to guess. The whole extent of this side of the continent, from Sierra Leone to the great Orange River, has never even been visited by a naturalist, and its productions are absolutely unknown.

In the following lists are enumerated the chief quadrupeds of Western Africa, arranged under those countries where they have been particularly observed:—

Senegal.

Cercopithecus ruber. Red Monkey.
Cercopithecus sabaeus. Green Monkey.
Megaderma frons. Foliaceous Bat.
Taphozous senegalensis. Senegal Bat.
Oryx besoastica *Sm.* Senegal Oryx.
Gazella Dama *Sm.* Swift Antelope.
Tragelaphus scripta. Harnessed Antelope.

Guinea.

Cercopithecus nictitans. White-nosed Monkey.
Cercopithecus petaurista. Vaulting Monkey.
Cercopithecus diana. Palatine Monkey.
Cercocebus fuliginosus. Smoky Monkey.
Cercocebus æthiops. Ethiopian Monkey.
Cyanocephalus papio. Guinea Baboon.
Papio Mormon. Mandrill.
Papio sylvicola. Wood Baboon.
Canis cancrivorus. Crab-eating Wolf.

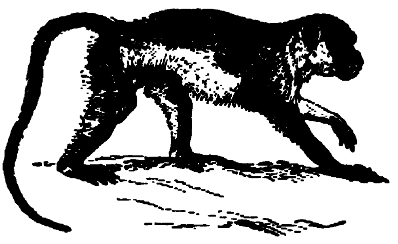
Sierra Leone and Congo.

Simia troglodytes. Chimpanzee.
Colobus polycomos. Full-bottom Monkey.
Gazella mytelopes *Sm.* Broad-footed Antelope.
Antilope redunca. Nagor Antelope.
Cephalophus sylvicultrix *Sm.* Bush Antelope.
Cephalophus quadriscopa. *Sm.* Four-tufted Antelope.
Cephalophus mergens. Ducker Antelope.
Cephalophus Grimmia. Guinea Antelope.
Cephalophus Maxwellii. *Sm.* Maxwell's Antelope.
Cephalophus Philantomba. *Sm.* Sierra Leone Antelope.
Tragelophus phalerata. *Sm.* Ribbed Antelope.

The most interesting quadrupeds of Senegal appear to be the Red Monkey, the Green Monkey, and the two Antelopes named Dama and Scripta. Of the former, M. Adanson has left us some interesting details.

The Red Monkey is a pretty animal, but capricious, mischievous, and little susceptible of attachment. Our author gives an interesting account of their curiosity. During his aquatic excursion, they descended from the tops of the trees to the extremity of the branches, earnestly noticing, and apparently much amused by, the boats passing up the river. After a time they took courage, and began to pelt the travellers with pieces of wood, thus provoking a most unequal contest. Upon being fired upon, they uttered the most frightful cries, and, although many were killed, the survivors returned to the contest with redoubled courage, and with a most determined spirit: some flung stones at their adversaries, while others even collected their own excrements for the same purpose.

824

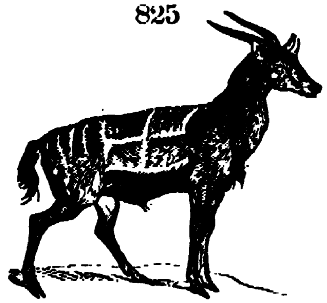


Green Monkey.

The Green Monkey (*fig.* 824.) is so named from the upper parts being of a greenish-yellow colour: the lower are grayish; and the tail is terminated by a long pencil of yellow hairs; the face, ears, and hands being black. Adanson found this species in immense numbers. They remain on the trees in large troops, and preserve the most profound silence, even when they are wounded. He did not at first notice them, from the similarity of their colour to that of the foliage, until they suddenly began flinging at him pieces of the dead branches; and although he killed twenty-three of them in less than an hour, they did not appear in the least frightened by the discharge of his guns. In confinement, it is stated by M. Cuvier to be remarkably beautiful and gentle; fond of being caressed by those it knows, and seldom exhibiting any malicious propensity: when fully contented, it expresses satisfaction by a peculiar gentle grunt, which may be compared to the syllable *grau*.

The Dama Antelope was first described by Buffon, from a skin brought home by Adanson from Senegal; this so closely resembles the species so named by M. Rüppell, and found by him in the deserts of Nubia, that they are probably one and the same.

825



Harnessed Antelope.

The Harnessed Antelope (*fig.* 825.) is a most beautiful animal, first noticed by Adanson by the native name of *Gerib*. It is about the size of a fallow deer: the ground colour of a bright bay, but marked with stripes in various directions, and with such regularity as to give the idea that a harness, of some white material, was thrown over its body. It has been thought to extend from Senegal to Caffraria; but Mr. Burchell's observations do not confirm this idea. Another species, closely resembling this, is named by Major Smith the Ribbed Antelope (*A. phalerata*): it inhabits the barren plains above the great falls of the Zaire, or Congo; where it was first observed by Professor Smith.

The quadrupeds of Guinea and Congo must be far more numerous in species than what would appear from our list, but the climate is too deadly to the European constitution to permit the researches of science; while the notices given by ordinary travellers only lead to error. These regions present, indeed, a singular feature in geographic zoology, since we find within it the least developed races of mankind, and those animals most approaching to his conformation. The damp and impenetrable forests give shelter to innumerable Monkeys; and large Baboons, of the most grotesque but repulsive forms, are common in this part of Africa.

826

Common Baboon.

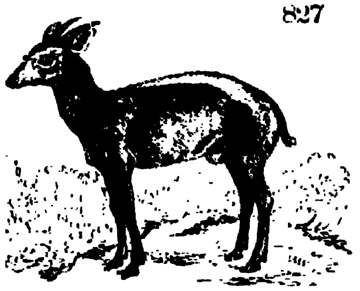
The Papiou, or Common Baboon (*fig.* 826.), abundant on the coast of Guinea, is of a yellowish green, verging more or less to brown: the visage black, and the tail long. It varies in size according to age: when adult, it is a most ferocious and disgusting animal. From the same country comes the Mandrill Baboon (*Simia Maimon* Lin.), of an olive colour: its chin has a small yellow beard, and the cheeks are naked, blue, and furrowed. In the adult males, the nose grows red, and the end is sometimes of a bright scarlet, while the buttocks are of a beautiful violet. M. Cuvier well remarks that it is impossible to conceive an animal more extraordinary and more hideous. It very nearly attains the height of man, and is looked upon by the negroes with great fear.

But the Chimpanzee, of all the Apes yet discovered, is that which makes the nearest approximation to the human form. The most extravagant accounts of this animal are given in the narratives of the old voyagers; and although its distinction from the Orang-Otang of India is now established, its history, in other respects, is still shrouded in great obscurity. It was designated by Linnæus as a variety of the human species, under the name of *Homo troglodytes*. The Chimpanzee appears to have an affinity, if not identity, with the large African apes so often mentioned by travellers, or to the Barris, or great Wild Man of the African woods: but the few specimens that have yet reached Europe have been young. In the adult state its size is said to exceed that of the Orang-Otang, and to exhibit the same docility, submissiveness, and gentleness. It appears confined to intertropical Africa, and is heard of more especially in Congo. The Perruque or Full-bottom Monkey (*Colobus polycomos* Geof.) appears more restricted to the forests of Sierra Leone and Guinea; it is thus named from the neck being furnished with a variegated mane of long hair, fancifully compared to a full-bottom wig, but truly representing the Lion in its own family.

Several of the Antelopes are very elegant, but we must content ourselves with shortly noticing two.

The Bush Antelope (*A. sylvicultrix*) (*fig.* 827.) is called, by the colonists of Sierra Leone, the Bush Goat: it is of a considerable size, and measures five feet in length: it is found on the bushy acclivities of the open mountains, quitting the covers about sunrise to feed, when it is shot by sportsmen; the venison being excellent: it is not so fleet as other antelopes.

827



Bush Antelope.

The Ducker Antelope (*A. mergens*) is remarkable for its great timidity, being alarmed at the least unusual noise, and concealing itself on hearing thunder. It lives solitary or in pairs: its peculiar name originates from its singular habit of rising upon the hind legs to look round, making a blowing noise with its nostrils, and then stooping and flying under cover of the vegetation, to stand and rise up again. Another species, the Dodger Antelope of Major Smith, also from Western Africa, appears to resemble this very much.

The Lamantin, or Sea Cow (*Manatus senegalensis*), an amphibious quadruped of great dimensions, occasionally frequents the mouth of the Senegal. It is essentially herbivorous, and of a mild and inoffensive character. Adanson describes it as full eight feet long, having some resemblance to a seal: four nails are at the edge of the fins, and the tail is horizontally flat; the eyes very small, and the ears not visible. The negroes call it Cercou.

To enumerate the variety of Birds inhabiting this richly-wooded portion of Africa would be hopeless, while a list of all the species would little interest the general reader: we must, therefore, merely notice the more curious or the more beautiful species.

The Rapacious Birds are few. It appears singular that only one species of Vulture is yet known to inhabit Western Africa; where their services, in removing putrid animal matter, might be supposed so necessary. This is the Angola Vulture of Latham, which is probably the same with the Vultur percnopterus of Egypt and Southern Europe; although Latham's name has recently been erroneously applied, in an English translation of Cuvier's Animal Kingdom, to a totally different bird.

The Crowned Eagle of Guinea (*F. coronatus*) (*fig.* 828.) is not more than two feet in length, or one-third the size of the larger European eagles: it is only occasionally seen on the Gold Coast, and is remarkable for a crest over each eye, while the legs are clothed with feathers to the toes. The Senegal Fishing Eagle feeds almost entirely upon fish, in the manner of the Osprey. Five other falcons, peculiar to this country, have only recently been noticed; a proof how little we are acquainted with the ornithological riches of Western Africa. The Gray-necked Shrike (*Malaconotus olivaceus* Sw.), the Barbary Shrike (*Malaconotus barbarus* Sw.), and two or three other species of the same group, equally conspicuous for the richness of their plumage, occur in Senegal, and, probably, also in the neighbouring states.

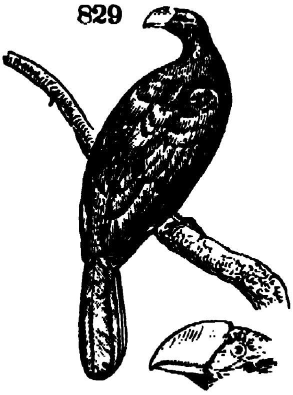
The beautifully coloured Sunbirds (*Cinnyridæ* Sw.) are met with in great numbers, sipping the nectar from the odoriferous blossoms. The Senegal, the Long-tailed, and the Chalybeate, are three species of exquisite beauty; and not larger in size than many of the American humming-birds. Here likewise are seen numerous flocks of golden-coloured Orioles of different species. Migratory Rollers, decked with the brightest tints of azure, purple, and green, occur in large flocks; with crested Hoopoes, and beautiful Bee-eaters. Many other tribes, interesting both to the common observer and to the scientific naturalist, might be mentioned. The water birds are but imperfectly known.

The Gallinaceous Birds, so numerous in India, and even in America, under the same parallels of latitude, are here very few. Some of the partridges, loosely mentioned by travellers, are probably of that particular race called Sand Grouse, found only in the hot latitudes of the Old World (*G. Pterocles* T.), while the rest cannot be referred to their true species. The only gallinaceous birds of any size, peculiar to tropical Africa, are the Guinea Fowl. Of these, the most common species (*Numida meleagris*) has long been domesticated in Europe. In a wild state, these birds associate in numerous flocks of 200 or 300 each: they chiefly frequent marshes and morasses, where they seek for worms, insects, and seeds. During the night they perch on high places, and are well known as restless and clamorous birds.

828

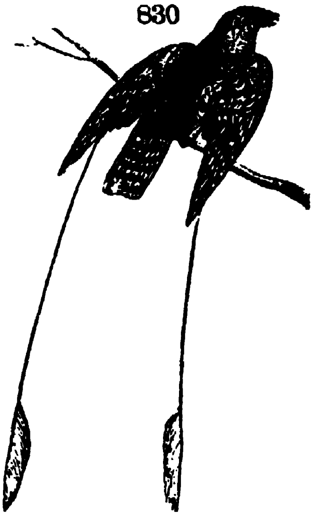
Crowned Eagle.

829



Plantain-eater.

830



Long-shafted Goatsucker.

Four of the most remarkable land birds still remain to be noticed; namely, the Plantain-eater the Touracco, the Beef-eater, and the Long-shafted Goatsucker of Sierra Leone.

The Plantain-Eater (*Musophaga violacea*) (*fig.* 829.) according to M. Isert, its first discoverer, is found on the plains bordering the rivers of Acra in Guinea, feeding principally on the fruit of the plaintain. M. Isert remarks, it is so very rare, that, with every pains, he could only procure one specimen. Two magnificent examples, however, of this most elegant bird are now before us. They are as large as ordinary-sized pigeons, but with the tail much longer: the whole plumage is of a deep black, highly glossed with bluish purple; but the quill-feathers, when opened, are then seen to be of the deepest and richest lilac, reflecting violet; the feathers of the head are of the same colour, and so short and soft as to resemble velvet; the bill is orange, mixed with red; its substance very thick, and elevated in front like a helmet. Another species, the variegated Plantain-eater, is also found in Senegal, but its plumage is plain.

The Touracco, or Web-crest, of Senegal, is of the same natural family; rather smaller in size, but living equally and exclusively upon fruits: the wings are also of a crimson lilac, but the rest of the body is green. On the head is a compressed and erect crest of thin and delicate feathers. It lives in the deepest forests, and perches only on the loftiest trees.

The Beef-eater (*Buphaga africana* L.) receives its name from its habit of alighting on the backs of cattle, and picking from their hides the troublesome insects by which they are infested, climbing round their bodies, much in the same way as the creepers or woodpeckers do on trees: this is rendered apparent by the formation of their claws and tail, both of which are of the scansorial structure; the bill also is very thick. The bird is not so large as a thrush, and is plainly coloured: another species is said to inhabit Abyssinia.

The Long-shafted Goatsucker (*C. macrodipterus*) (*fig.* 830.) is peculiar to Sierra Leone. It is varied with brown, yellowish, and black, much like the European species, yet it is smaller; its most remarkable character is a very long single feather, issuing from the wing covers, measuring near twenty inches, the shaft of which is only expanded into a broad web at the end. We are totally ignorant of the peculiar use which nature has, no doubt, designed for this extraordinary appendage.

The rivers and coasts abound with many fish, beautiful in their colours or nutritious for food; while the swarms of alligators, serpents, and other reptiles, need not be enumerated. Many of these, however, are not only harmless, but highly beneficial. Mr. Smeathman, who lived many years on the African coast, observes that the snakes get into the thatch of the houses in pursuit of the rats and cockroaches; the former being very harmless, and the two latter destructive. The patient negroes, it seems, no less than the rational traveller, are not without consolation amidst this heterogeneous crowd of inmates. They see with pleasure the spiders always upon the watch for wasps and cockroaches; the last of which are intolerable. The lizards, again, attack all sorts of insects; the large Tarantula, as it is called, not excepted. The lizards not unfrequently fall a prey to the fowls, as the rats do to the snakes. The land-crabs are frequently enclosed (as in the West Indies) in a small yard, and fed with vegetables, upon which they fatten exceedingly; and, when stewed, become delicious eating. Thus, as our traveller observes, either lizards, rats, snakes, or land-crabs occasionally serve as delicious repasts to the improvident inhabitants, who thus "thrive under evil."

The Insects are innumerable, but we must refer the scientific reader to the third volume of Drury's Illustrations, which is almost entirely devoted to the Western African insects discovered by Smeathman. We shall, however, repeat the more general observations of this truly scientific observer, more particularly as they are highly interesting, and appear to be very little known. The whole of tropical Africa, says Mr. Smeathman, is one immense forest, except where the sandy plains are too unsettled to afford a proper footing for vegetation. Whenever a plantation is to be made, the trees are cut down and burned, to fertilise the ground: the people never sow two years together on the same spot; but suffer the trees to grow again, for two or three years, by way of fallow, before they attempt to get another crop. It is these spots, called recent plantations, which afford an amazing variety of insects; in the second and third year, they become impassable to human feet.

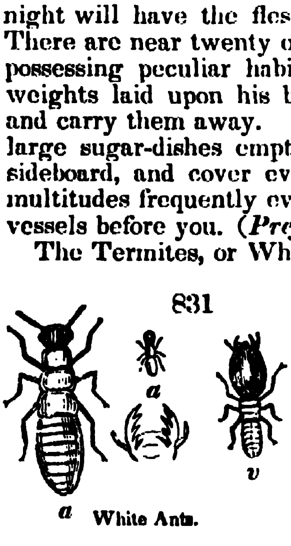
There are a variety of edible insects, which, Mr. Smeathman affirms, supply a wholesome, if not a delicious food. The larvæ or caterpillars of all the beetles that feed upon decayed wood are rich and delicate eating, so that every forest affords the traveller plenty of wholesome nourishment, did he know where to search for it. Of this kind are the Termites, or white ants, subsequently described; and even the locusts in general are not only wholesome, but palatable to many. The children in Africa, at the proper season, are busily employed in digging out of the ground the females of a particular sort of cricket, which are then full of eggs, and so enclosed in a bag, as to resemble part of the roe of a large fish: these, when roasted, are deemed very delicate food.

The number of Locusts and Cicadas is everywhere striking; but in the sandy plains thinly covered with grass their numbers are immensely greater; their chirping is intolerable; and they are seen of various kinds, sizes, and colours, skipping or flitting about in all directions at every step of the traveller.

The myriads of Ants, which swarm in tropical Africa, can scarcely be conceived by those who have never visited hot climates. They are of numerous species, but all seem intent on removing from the face of the earth every animal or vegetable substance no longer necessary or useful. Like the destroying angel, they walk steadily forward in the line ordained them, and spare neither magnitude nor beauty, neither the living nor the dead. One species, which seems at times to have no fixed habitation, ranges about in vast armies: being armed with very strong jaws, they attack whatever animal impedes their progress, and there is no escape but by immediate flight, or instant retreat to the water. The inhabitants of the negro villages, as Mr. Smeathman has himself witnessed, are frequently obliged to abandon their dwellings, taking with them their children, &c., and wait until the ants have passed. So numerous are these hosts, that a deer, hog, &c. being killed, and left on the ground, in one night will have the flesh entirely cleaned from the bones, and made a complete skeleton. There are near twenty other species in Western Africa, of different sizes and colours, each possessing peculiar habits. Some attack the collections of the botanist, and, in spite of weights laid upon his books of drying plants, get in, cut the leaves and flowers to pieces, and carry them away. Others attack all sorts of victuals. Mr. Smeathman has had four large sugar-dishes emptied in one night, when the least opening was left; some assail the sideboard, and cover every glass that has had wine or punch left in it; nay, innumerable multitudes frequently even ascend the table, and drown themselves in the very bowls and vessels before you. (*Pref. to Drury's Insects*, vol. iii.)

The Termites, or White Ants (*fig.* 831.), constitute the most extraordinary feature in the natural history of Western Africa. We are entirely indebted to Mr. Smeathman for a knowledge of their wonderful economy; an economy, indeed, which nearly exceeds the wisdom and policy of the bee, the ant, or the beaver. They build pyramidal or conical structures (*fig.* 832.), divided into appropriate apartments, magazines for provisions, arched chambers, and galleries of communication. These are so firmly cemented that they easily bear the weight of three or four men; and, on the plains of Senegal, appear like the villages of the natives. The destruction they effect is wonderfully rapid: they destroy food, furniture, books, clothes, and timber of whatever magnitude, leaving merely a thin surface; and in a few hours a large beam will be eaten to a mere shell not thicker than writing-paper. On emerging from the egg, the insect is in its larva state, furnished with a great hard head and strong toothed jaws, but is destitute of eyes. These are the labourers who, although not more than a quarter of an inch long (*a*), build these edifices, procure provisions for the

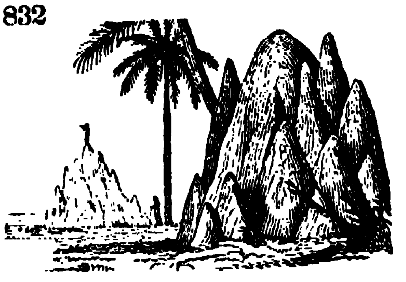
831



White Ants.

community, and take charge of the eggs. On changing to the pupa state, they become larger and more powerful (*b*): the head is nearly as big as the body, while the jaws project beyond the head; they are very sharp, but without teeth. They now become soldiers, and assume higher duties; never working themselves, but superintending the labourers; they act also as guards to defend the common habitation from intrusion or violence. When a breach is made in the dwelling, they rush forward and defend the entrance with great ferocity; frequently beating their jaws against the walls as a signal to the other guards, or as encouragement to the labourers; they then retire, and are succeeded by the labourers, each with a burden of tempered mortar in his mouth, and who diligently set about and repair the injury. One soldier appears to attend every 600 or 800 labourers when building a wall; he takes no active part himself, but frequently makes the noise above mentioned, which is constantly answered by a loud hiss from all the attendants, who, at this signal, evidently redouble their diligence. The next change brings the pupæ, or soldiers, to their perfect state as male and female winged insects. They then immerge into the air either during the night, or on a damp and cloudy day: in a few hours, however, the solar heat causes the wings to wither and become dry; the insects then fall to the ground, and are eagerly sought after by hosts of birds, lizards, and even by the negroes themselves, who roast and eat them. The few which survive this general destruction are collected by the labourers and soldiers, who enclose them, by pairs, in apartments made of clay, the entrance to which is so narrow that they cannot migrate; but where they are diligently fed and attended by the labourers, whose bodies are small enough to admit an easy entrance. After impregnation, the abdomen of the female extends to an enormous size, exceeding the rest of her body nearly 2000 times; in which state it is filled with an immense number of eggs, protruded to the amount of about 8000 in 24 hours. These are instantly taken away by the labourers, and conveyed to separate chambers; where, after they are hatched, the young are attended and provided for till they are able to shift for themselves, and take their share in the labours of the community. (*Smeathman*, *Phil. Trans.*, vol. lxxi.) Such is the history of one of the most extraordinary insects in creation: an insect, insignificant in its size, almost deformed in its shape, and contemptible in appearance; one, also, to whom Providence has denied the power of sight. Yet this little creature evinces more wisdom, prudence, skill, courage, and foresight, than those savage races of mankind who tread him in the dust. Truly may we exclaim, O God! wonderful are thy works; thy ways are past finding out!

832

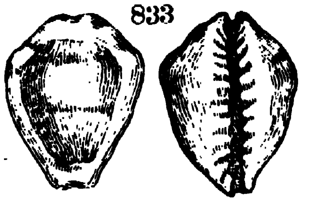


White Ant Nests.

Other species of Termites build their nests on trees of an oval form, while that of another (*T. arda*) is cylindrical, two or three feet high, terminated by a round vaulted dome, and surrounded by a prominent terrace.

On the Mollusca and Shell-fish, Adanson is the only author worth consulting. The Voluta cymbium and scæpha, two large volute shells, the animals of which are carnivorous, appear to be in profusion towards Senegal. Cones, olives, and various other predacious races, are no less common; and it is well known that Cypræa moneta, or money cowry (*fig.* 833.), passes current among the negro tribes as coin, of a very low value.

833



Money Cowry.

Sect. III.—*Historical and Political Geography.*

Western Africa cannot be considered as a region within the domain of history. Whether it was known to the Carthaginians or the Romans, and whether their navigators ever passed the shores of the desert, is a question which the few though curious documents extant, will scarcely ever perhaps enable us with certainty to solve. The Arabian geographers appear to have had only a vague and conjectural idea of this region. The coast was entirely unknown to Europe during the middle ages; and until the Portuguese, under Prince Henry, began their career of discovery, in 1432, it was thought a mighty achievement to pass Cape Bojador; but, that obstacle being overcome, the shores of the desert, however uninviting, were rapidly traced, and in 1441 a settlement was formed on the island of Arguin. Successive navigators discovered the Senegal, the Gambia, the Gold Coast, Benin; and, in 1484, Diego Cam sailed up the river of Congo. Of all this vast extent of coast, possession was taken, according to the usual European pretension, in the name of the king of Portugal. Settlements were formed at all the leading points, embassies sent into the interior, and great exertions made to convert the natives to the Catholic religion. Portugal, however, in the decline of her power, lost all these territories, and retains only some possessions on the most southerly part of the coast. In 1643, the Dutch drove her from El Mina, and about the same time from all her possessions on the Gold Coast, of which that people now claimed the sole dominion. From this pretension they were forced to recede by the rising naval power of the English, who, in 1661, took from them Cape Coast Castle, and, having formed an African company, built a number of forts upon the coast, with a view to the trade in slaves and gold. The English, about the same time, formed settlements at the mouth of the Gambia, while the French established the principal seat of their African power at St. Louis, on the Senegal. Both these last settlements were founded on the belief then prevalent in Europe, that these rivers were the embouchures of the Niger, by which a communication might be opened with the inmost regions of Africa. Spirited attempts were made by the two nations, and particularly the French, to carry this navigation into effect; but various obstacles arrested their progress. Park's journey finally proved the limited extent of the two rivers, and ascertained the Niger to be a distinct stream, flowing easterly. The expedition of Lander, which has shown the Niger to fall by a succession of estuaries into the Gulf of Benin, promises to give a new importance to Western Africa, as the quarter whence barks may penetrate into the most interior regions of the continent. Allowing for some vicissitudes, originating in their wars with each other, the two nations have continued to occupy these several points. Among the numerous native states, also, a continual fermentation prevailed; and little barbarous thrones were alternately raised and subverted; but these can rank only as local changes, not affecting the general character of the region.

Sect. IV.—*Productive Industry.*

In the arts which minister to subsistence and wealth, all the nations along this coast have made some progress. They are decidedly advanced beyond the hunting and even the pastoral state, and derive their chief support from a certain species of agriculture. The whole coast being situated between the tropics, and generally well watered, is, in most cases, capable of yielding an abundance of all the richest treasures of the vegetable kingdom. The products are maize, millet, some rice, to which are added yams and potatoes, sugar, coffee, cotton. All the objects of culture which enrich the West India islands might be raised here with advantage. There are some spices, particularly that called Guinea pepper, but none of them possess the high and delicate flavour which distinguishes those produced in the Eastern seas and islands.

These natural advantages are improved by agriculture only in a very limited degree. In general, the great mass of the negro territory consists of an immense and impenetrable forest. Unless in a very few spots, there is no such thing as property in land, but an ample portion lies waste for any one to clear and cultivate who chooses, and can obtain the permission of the king or head of the village. In general, only a certain extent round each village or town is cleared of wood and brought under tillage. Farming does not constitute any distinct profession, nor are domestic animals employed to aid the labour of man. For a few days only at seedtime or harvest, the people of a whole village assemble as to a festival, the king at their head, and issue forth to the sound of musical instruments. Each man carries a hoe, or little spade, with which he scratches rather than digs the ground, when just moistened by the rains; and in this happy climate it is fit to receive the seed after such superficial culture. The ground belonging to the king or the public is first worked; and then successively the fields of different individuals. The palm tree, a spontaneous production, yields a juice or wine, which has an intoxicating quality, and forms one of the greatest luxuries of the natives; and its oil is now the chief staple of African commerce.

Manufacturing industry seems to rank still lower. Cotton is, indeed, formed into those loose robes which are generally worn; but it is mostly of a coarse fabric, and made by the females of each family for domestic consumption. Fine cotton cloth is indeed made in Africa, but only at a considerable distance in the interior. The smith exercises his trade with considerable dexterity, and is an important personage as furnishing arms to a warlike people; yet he has not acquired the skill requisite to fabricate a gun. The gold, however, which is brought from the interior is worked into ornaments which excite the admiration even of Europeans. Mats are woven with considerable neatness and skill, being the staple articles of furniture, used for sitting and sleeping upon, and also as partitions to the houses. Moore even saw them pass as money.

Fishing is carried on by the negroes with great activity, and supplies, indeed, almost the whole of their animal food. The most delicate species are the Dorado, called by the English, Dolphins, and by the Dutch, gold-fish. The Albicore is a fish of extraordinary magnitude, often five feet long, and as thick as a man's body; but the flesh is not agreeable. They have also cod, pilchard, sole, mackerel, and other European species. They go out to fish in canoes sometimes forty feet long, cut out from the trunks of their enormous trees, and holding from twelve to eighteen men. From 600 to 800 canoes will issue of a morning from one of their large towns, row to the distance of two or three leagues, and continue fishing till noon. They practise also most of the known modes of catching fish; with stake-nets, with lights during the night, by which the fish are attracted, and then either pierced with spears, or taken up in baskets. In their habits, the people on the sea-coast are almost amphibious. They have no modes, however, of salting the fish, which serve only for immediate consumption, and cannot be made an article of export.

Commerce is not actively pursued by the natives of the African coast. Their canoes are obviously unfit for maritime traffic on any extensive scale, nor do they send often or far into the interior such immense caravans as traverse the whole of Central Africa. In general, the natives are content to deal with European vessels, and with merchants from the interior. The Barbary caravans seldom arrive on the Gold Coast or other parts of Guinea Proper; but they are occasionally seen in the rivers of Benin. From the mouths of the Gambia and Senegal, coffles, or kafilas, are occasionally sent up to some distance inland for gold and slaves.

The slave trade, unfortunately, has ever been the grand staple of the intercourse with Europe, if trade it can be called, which is founded on the violation of the rights of humanity, and consists in a uniform series of acts of violence. Sometimes the chiefs may make their captives taken in war subservient to this nefarious traffic; but, in general, its victims are the product of expeditions undertaken for that express purpose, without even the slightest pretence of right. The king, who wishes to replenish his treasury by the sale of slaves, fixes upon some village either in his own or a neighbouring territory, surrounds it in the night, sets fire to it; and the wretched inhabitants, in attempting to escape, are seized, and hurried on board a European vessel. Slavery is made also a punishment for offences; but this is productive of various disorders; for not only is the judge strongly biassed against the criminal, of whose condemnation he is to reap the benefit, but it has even become a trade to entrap men into crimes, in order to acquire the advantage of selling them. Although the trade has been made illegal to the north of the line, and all vessels engaged in it on the coasts so situated are liable to be seized, yet it is still carried on at different points both on the eastern and western side of the continent to a great extent; and it has been estimated that not less that 100,000 victims are thus annually carried into slavery in the European colonies and American states.

Although the slave traffic has unhappily been long the staple of West African trade, there are articles of commerce which it has always produced, and the exportation of which might be considerably extended; of these the most important is gold, brought down the Senegal and Gambia from Bambouk, Manding, and the other mountain districts at the head of those rivers. But the most ample store is found in that part of Guinea which, from this product, is called the Gold Coast. The greater part is brought from some distance in the interior, and from the opposite side of the same mountains. No account is taken of the importation of this article; but in the beginning of the last century it was estimated by Wadstrom at from 200,000*l.* to 300,000*l.* in value. That of ivory, or elephants' teeth, also from the interior, is from 10,000*l.* to 15,000*l.* The gums are important articles, particularly gum Senegal, drawn from vast forests of acacia, which grow in the half desert tracts to the north of the river Senegal. Teak wood is an important commodity, to which is added several kinds of ornamental and dye woods, particularly that called red or cam wood. But of late years, palm oil, from its use in manufactures, and the abundance with which it is supplied, has acquired an importance greatly surpassing that of any other article. Sugar, cotton, and other grand tropical staples have never been raised for more than native use; and it would seem that a complete change must take place in the habits of the people, before they will cultivate them to any extent which can produce an exportable surplus.

Among the articles received by the negroes in return, cotton goods are the most extensive. Till of late, those of India were greatly preferred; but British manufactures of this class are now so much improved, or, at least, made so cheap, that they have almost driven out their Eastern rivals. The export of woollen goods is also very considerable. Brass, iron, and steel, are in considerable demand. Guns, gunpowder, brandy, and rum, were largely given in exchange for slaves; and for the two former there still exists a great and effective demand. Cowries, from the Malabar coast, are largely introduced to form the medium of circulation through all the negro countries.

Sect. V.—*Civil and Social State.*

Of the population of a territory, of which the interior is so little known, and has such vague limits, it is difficult to form even an approximated estimate. In the Supplement to the *Encyclopædia Britannica*, reasons are given, founded partly upon actual enumeration, for supposing that the density may be about twenty-six to the square mile. If, then, we estimate the length of coast at 4000 miles, and assume an average breadth of 300, this will give 1,200,000 square miles, and a population of 31,000,000. Yet after all, considering that there are desolate tracts of very great extent, this number may be beyond the truth, and, perhaps, at a rude guess, we may fix the population of this great tract of tropical Africa at about 20,000,000.

In this region human nature cannot be said to appear under a dignified form. Even the external aspect of the negro is, in our eyes especially, mean, coarse, and ugly. The deep black of his complexion has been supposed by some to be connected with the barbarism of his habits, though it appears to us sufficiently accounted for by the long-continued action of the intense solar heat. But the thick lips, flat nose, woolly hair, and the line of the face sloping backwards, are at variance with every idea of beauty, and suggest very little of the exercise of intellectual energy.

The character of the negroes, of course, varies extremely, according to the variety of situation and government, among such a multitude of little communities. In general, they have made little progress in that which constitutes improved and civilised life. They are strangers to literature, the ornamental arts, and refined luxuries. Yet, whenever adequate objects are presented, they display energies sufficient to refute the cruel theories which would represent them as a degraded race, incapable of reaching any high degree of mental culture. In governments of a popular character, they display an eloquence, address, and activity surpassed by few of the most civilised nations. Even in their absolute monarchies, we discover a regular subordination, polished manners, and skill in the art of war, which, among a people destitute of arts and letters, cannot but appear surprising. There is no room whatever to doubt that, placed in favourable circumstances, the negro would attain to as high a degree of civilisation, as the men of any other race. Ferocity in war is a universal feature of savage character; and in some of the sable nations it is carried to an extraordinary pitch. In his domestic character, the negro presents much that is amiable and pleasing; he is cheerful, gay, hospitable, and kind-hearted. The negroes appear to great advantage compared with the Moors, who, from the north, have over-run so great a part of Africa, and to whose gloomy and austere bigotry, the black natives are entirely strangers.

Of religion, as embracing the belief in a supremely wise and good ruler of the universe, and in a future state of moral retribution, the negroes have very obscure conceptions; while almost every superstition which can degrade the human mind reigns in full sway. To express generally what is sacred, what is forbidden, what is endowed with supernatural powers, either beneficent or malignant, they employ the term *fetiche*. Every thing which strikes the fancy of a negro is made his fetiche. The grand or national fetiches are rocks, hills, or trees of remarkable size and beauty. But there are fantastic objects of veneration, which each individual adopts, and carries about with him. Such are, a piece of ornamented wood; the teeth of a dog, tiger, or elephant, a goat's head, a fish bone, or the end of a ram's horn. Some merely carry branches of trees, or a bunch of cords made of bark. They set up these fetiches in the houses, the fields, or the centre of the villages; erect altars to them, and place before them dishes of rice, maize, and fruits. The framing of these fantastic objects of African worship, and the selling them at an enormous price, forms the chief occupation of the African priesthood. All the good fortune of the negroes is supposed to arise from the favour of the fetiche, and every evil to proceed from offence taken by it. Every man fixes upon some act of self-denial, something from which he is to abstain, in honour of his fetiche; and the engagement thus contracted, he will, in many cases, die sooner than violate. This superstition is often employed as an instrument in judicial proceedings, which are so conducted as to involve an appeal to superior powers, who it is expected will directly interpose to discover the truth and punish falsehood. If a negro eats a crust of bread, tastes a drop of liquor, or throws sand upon his head, wishing at the same time that the fetiche may kill him on the spot if he tells a falsehood, more reliance may be placed on his words, than on those confirmed by the oaths of rational men taken before our courts. It frequently happens, that when tests are propounded, the most hardened criminal at once confesses himself guilty, rather than encounter the terrible alternative of denying his guilt. In the case of any solemn engagement, the person taking it is presented with his "swearing liquor," which he drinks under the dread of the most awful penalties if he violates the accompanying promise. The people cherish the general belief of a future state, little connected, however, with any idea of moral retribution. The question is, whether they have faithfully observed the promises made to the fetiche, and forborne every thing by which he could be offended. According to their ideas, the future world will be a counterpart of this; will present the same objects to the senses, the same enjoyments, and the same distinction of ranks in society. Upon this belief are founded proceedings not only absurd, but of the most violent and atrocious description. A profusion of wealth is buried in the grave of the deceased, who is supposed to carry it into the other world; and human victims are sacrificed often in whole hecatombs, under the delusion that they will attend as his guards and ministers in the future mansion. This savage superstition prevails to a peculiar extent in those great interior monarchies, which in other respects are more civilised than the rest of Western Africa.

It is impossible to name a region tolerably peopled, where any progress at all has been made in the arts, which is so completely illiterate as Negro Africa. It is not enough to say that it has neither books, authors, nor learned men. In no part of this extended region is there an alphabet, or a hieroglyphic, or even a picture or symbol of any description. All those refined processes, by which the ideas of one mind are made to pass into those of another, are entirely unknown. The facility of subsistence, and the absence of circumstances tending to rouse the intellectual energies, are doubtless the causes of this singular deficiency; for, as already observed, there can be no ground to presume any original want in the capacity of the negro. Their powers of oratory, and their skill in politics and war, indicate talents which, under proper impulse, would lead to excellence in literary composition. In the more improved nations, there has been found to exist an oral literature, traditionary songs and poems, the recitation of which is listened to with delight.

The universal amusements of the negro, above those of mere sensation, are dancing and music. The former is invariably performed in the open air. As soon as the sun declines, and its intense heat abates, there is dancing from one end of Africa to the other. Twenty-five hundred years ago, Hanno and his companions were surprised, immediately after sunset, to see lights glittering along the shore, and to hear on every side the sound of musical instruments. The passion, however, with which this amusement is pursued, has not led to any refinement in the art. Their performance consists chiefly of violent and grotesque movements; leaping, stamping on the ground, bowing their heads, and snapping their fingers. In their music, also, noise appears the chief if not the sole object. Their drums and their trumpets, or rather horns, produce a horrid dissonance, against which, according to some travellers, a whole bale of cotton would be required to stop the ears. Others represent it as more tolerable; and add, that the negroes have also a kind of castanet, a flute, musical tongs, and a sort of cittern; and the performers, gaily and even fantastically attired, attract to themselves the admiration of the multitude (*fig.* 834.).

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Dancing and Music of the Negroes.

Polygamy, throughout all tropical Africa, has no limit but that of the ability to maintain a considerable number of wives. By the great it is practised to the utmost extent that their circumstances can admit. To have numerous wives and children is considered a matter of state, and is always made their first boast. It forms even a source of wealth; for, except the principal wife, who is mistress of the household, and the sacred wife, who is consecrated to the fetiche, all are made to work hard, both in tilling the fields, and in manufacturing mats and cloths. Even the principal wife often urges her husband to take fresh mates, as a means of increasing the importance of the establishment over which she presides; it is also customary to make her a handsome present on the occasion. In the towns on the coast the more wealthy take usually from three to twenty wives, while the kings raise the number to eighty or a hundred; but in Ashantee, Dahomey, and other despotic interior kingdoms, the privilege knows no bounds, and the number is often carried to several thousands. It is swelled, not only by captives taken in war, but by the selection which the king has a right to make of the fairest and most accomplished females within the circuit of his own dominions. A great part of the nation are thus reduced to celibacy, and very dissolute habits prevail. In many of the towns on the Gold Coast, a body of courtesans are maintained by the state, and are considered as public servants. Not a few even of the wealthy are willing to derive a profit from the irregular conduct of their secondary wives. Notwithstanding the overgrown families of some of the great, such habits cannot fail to keep down the amount of population, and, by causing a neglect of education, to lower the intellectual standard of the people.

In architecture, and even in masonry, the negro nations rank very low. There is not, perhaps, in all native Africa, a house built of stone; wood, earth, leaves, and grass, are the only materials. One traveller compares their villages to groups of dog-kennels rather than of houses. The trunks of four large trees are driven into the ground, and connected by poles; this framework is then covered with earth or clay. The roof is formed by a number of branches meeting at the top, and covered with leaves or grass. The doors not being above two or three feet high, the enterer creeps rather than walks in, and he cannot stand upright unless in the part of the roof which is left hollow like a pent-house. The floor being raised about three feet from the ground to avoid the damp, and the apartment being open in front for the admission of air, the dwelling resembles a good deal a mountebank's stage in Europe. The houses of the rich are scarcely better, though more in number; for each wife has a house, and the whole establishment is surrounded by a wall of earth or twigs. Princes assign similar houses to their principal officers, and the group is enclosed with a general high wall, so as to make a sort of little town. It may be observed, however, that the houses of the great kings in the interior, though of the same materials, are of a somewhat superior description. The regal dwellings display brilliant colours on the outside walls, while the apartments are sometimes so spacious as to resemble a good English barn. In the cities where the people have a share in the government, there is a hall of assembly, which is open at the sides, having merely a roof supported by poles.

The furniture of the house bespeaks as much poverty as the house itself. A few seats, cups, and pots, all of wood or earth; coverlets of rushes, and perhaps a mat to sleep upon, form the entire amount of their accommodations. The rich distinguish themselves by fine mats, and occasionally by a brass kettle.

In point of clothing and ornament, the negroes are not quite content with the same simplicity. The lower classes, indeed, think it enough if they can cover the lower part of their bodies with a *paan*, or loose wrapper of the coarse cloth of the country. Until the age of twelve or thirteen, indeed, no attire of any description is considered requisite. The rich, however, must appear in costly robes of silk, velvet, India chintz, or other imported materials. The females of rank wear long veils and mantles, which they throw over the shoulder; red is their favourite colour; and they ornament their dress with gold and silver lace, and also with ribands. But the great rage is for bracelets and rings, which last are accumulated on the ears, arms, and the small part of the leg. The rich wear them of gold, or at least of brass or ivory; but the poorer classes are fain to content themselves with copper, tin, or, in default of better materials, even with iron. They have been seen with no less than forty small iron rings on their arms. The arrangement of the hair, or rather wool, is a matter of profound study to both sexes. They rub it with palm oil, curl and dress it in various forms, and largely entwine it with gold, and with a species of coral valued at its weight in gold. Some of the negro belles paint their face with red and white spots, till it looks like a piece of flowered damask. A certain degree of tattooing, or marking their skins with figures of flowers or other natural objects, is also practised.

In regard to diet, if the negroes observe a degree of simplicity, it is chiefly the result of necessity. Butcher's meat, poultry, and rice, are only within the reach of the opulent. The poor must content themselves with fish and millet, which, when boiled together into a thick mess, and palm oil poured over them, form the staple dish. They are alleged to eat coarsely and voraciously, thrusting their hands together into the common dish; but this is a custom universal throughout Africa. When good fare is placed before them, they are careful to indemnify themselves for former privations. On such occasions, they have been known to manifest a sort of canine appetite, eating as much as six Europeans. The drink of the country is palm wine, with which chiefly they enliven the social circle; but intercourse with Europeans has taught them the more pernicious use of brandy.

SECT. VI.—*Local Geography*

With the country called by the French Senegambia, or the region watered by the two rivers Senegal and Gambia, we commence our survey of Western Africa. It would be difficult and almost idle to attempt to fix the limits of this vast territory; but they may be stated at about 250 miles along the coast, and reaching 500 miles into the interior. It is divided among a vast variety of little kingdoms, whose boundaries and condition are continually varying. This part of Africa is most remarkable for the great negro races who inhabit it, and who are in general more peaceable, more industrious, and more amiable than any of the others upon the western coast. They are chiefly three, the Foulahs, the Mandingoes, and the Jalofs.

The Foulahs have been supposed to come from Fooladoo on the Upper Senegal, but others suppose them of the same race with the Fellatahs in Central Africa; in which case they must be traced to a foreign origin. They have now spread over all the banks of that river, besides the great kingdom of Foota Jalloo to the south, and many districts on the banks of the Gambia. They have not the extreme negro characteristics; neither the deep jet hue, the flat nose, nor the thick lips; on the contrary, their features are high, with an olive tint, and an agreeable expression. They have embraced the Mahometan faith, but without that bigotry which almost universally accompanies it. Their manners are peculiarly courteous and gentle; they practise the most liberal hospitality, and relieve the wants not only of their own aged and infirm, but even of those belonging to other tribes. Their employments are pastoral, and their habits, in some degree, nomadic. Occupying countries where there is no fixed property in land, they drive their flocks, according to the season, to the tops of the mountains or the banks of the rivers. At night they collect their herds within the circle of the tents, and light large fires to deter the approach of wild beasts. Such is their good conduct and industry, that it is considered infamous to injure them, and a blessing is said to rest on any territory that contains one of their villages. Their internal government is republican, under chiefs of their own; and this form they insist upon retaining, even when they settle under a sovereign of another tribe.

The Mandingoes are a race more numerous and more decidedly negro, both in form and disposition. Though capable of great occasional exertion, they have by no means the steady industry of the Foulahs. Their employments are chiefly a slight agriculture, fishing with nets and baskets, and, above all, traffic, in which their enterprise exceeds that of the other negro races. They conduct large kafilas to a considerable distance in the interior, and their language is well understood in all the commercial districts. They are cheerful, inquisitive, credulous, and so gay, that they will dance for twenty-four hours without intermission to the sound of the drum or balafou. Polygamy is practised to a peculiar extent, and the numerous households to which it gives rise live in tolerable outward harmony, which must not, however, be considered very secure, since it requires to be cemented by the extraordinary expedient of Mumbo Jumbo. This bugbear of the African ladies is called into service whenever the simpler expedients of scolding or beating fail to quell domestic dissension. Mumbo Jumbo, being then summoned, arrays himself in a fantastic coat hung for his use on a neighbouring tree, crowns his head with a tuft of straw, and soon after dusk marches into the market-place. Thither the unhappy fair one being summoned dares not disobey, and the love of stir and mischief causes her to be soon followed by the bulk of her fellow-citizens. In their presence she is stripped naked, and undergoes a severe whipping, inflicted by the rod of Mumbo Jumbo, amid the applause of all the spectators. They have some more refined tastes than are usual among Africans; particularly in poetry, the extemporary composition and recitation of which forms one of their favourite amusements. The original country of the Mandingoes is the elevated territory of Manding; but they are now widely diffused over all this region, and particularly along the banks of the Gambia.

The third great race are the Jalofs. They occupy nearly the whole of that inland territory which intervenes between the Gambia and the Senegal, and the extent of which is estimated by Golberry at 4800 leagues. A number of them are subject to a powerful inland prince, called Burb-y-Jalof, who boasts of himself as anciently the sole ruler in this part of Africa. The Jalofs, though of a deep black complexion, and with the decided negro features, are considered a handsome race. They boast of their antiquity, and in many respects excel their neighbours. Their language is softer and more agreeable; they manufacture finer cotton cloth, and give it a superior dye; they rival the Moors in horsemanship, and are fearless and expert hunters. They have a singular mode of numeration, reckoning by fives instead of tens, in reference apparently to the fingers, which, for want of the faculty of writing, are the sole instruments employed in calculation. Their ingenuity, however, is unfortunately too often employed in dexterous thieving, effected by a skilful movement of the toes, which may be said to rival, in this respect, the fingers of the most expert European pickpockets.

We shall close this catalogue with the Feloops, a wild and rude race, who inhabit the shores to the south of the Gambia. Their country is fertile, abounding in rice, poultry, and honey, from which last they prepare an intoxicating liquor. Provision is drawn from them for the settlements on the Gambia; but the English, having never taken the trouble to learn their language, cannot hold any direct communication with them; and the traffic is managed through the Mandingo merchants, who are suspected to take advantage of their own exclusive knowledge to cheat both parties.

Among European nations, the river Senegal has for more than a century been entirely French; and extraordinary efforts have been made by successive African companies to raise it to importance. Fort St. Louis, the capital, is situated on an island in the river, a mere sand-bank, without any water which can be drunk without being filtered, and dependent entirely for provisions on the southern coast, which, however, yields them in abundance. St. Louis never became a large settlement. Golberry, in 1786, reckons not above sixty Europeans settled there for the purposes of trade. The military and civil servants of government amounted to 600, the natives to 2400. The French lost St. Louis during the revolutionary war, but had it restored to them on the friendly peace which succeeded in 1814. The disastrous fate of the expedition sent out in the Medusa frigate was unfavourable to any attempt to restore and extend the prosperity of the colony. It is said, however, to have experienced an increase within the last few years, and to contain now about 6000 inhabitants. The original hopes of its greatness were founded on the supposed identity of the Senegal with the Niger, and on the prospect of a communication by it with the inmost regions of Africa. All the efforts founded upon this erroneous theory proved of course abortive; and the commercial advantages of the colony (the procuring of slaves not included) have been confined to the gum trade, and the gold trade of Bambouk.

The gum which, from this river and settlement, is called Gum Senegal, is the produce of some scattered oases, or verdant spots, that occur in the vast desert of sand to the north and west of the Senegal. The species of acacia from which it exudes has every appearance of a stunted and desert tree: its aspect is crooked and rough, its branches are thorny, its leaves of a dry or dirty green. The mere blowing of the harmattan causes the bark to crack in numberless places, and the gum to flow in large transparent drops, which remain attached to the surface. The harvest of gum is in December, when the Moorish tribes, of whom the *Trarshaz* are the most powerful, break up from their usual camps, their kings and princes at their head, and proceed in a confused and tumultuous crowd to the forests, of which each claims one or more. After six weeks spent in collecting the gum, they put it in large leathern sacks, with which they load their camels, and proceed in the same tumultuous array to the spot fixed on for the gum market, between Fort Louis and Podor. This plain, which is one of the most desolate spots in nature, is suddenly covered with an innumerable multitude of people enveloped in clouds of dust. The kings appear mounted on beautiful horses, their wives seated in baskets on the backs of camels, the crowd on foot; the air resounds with the cries of men, women, children, and animals. A cannon is fired as the signal for commencing the treaty. A dreadful scene of wrangling and higgling immediately ensues. The French accuse the Africans of most dishonest arts in order to enhance the value of their commodity. They themselves, it appears, are not far behind, since they have not scrupled to adopt the policy of insensibly augmenting the size of the cantar by which the gum is measured, a change which escapes the notice of their rude antagonists. The French take off annually about 250,000 lbs. of gum, which sells in Europe at from 15*d.* to 20*d.* per lb. The returns are taken almost exclusively in East India cotton cloths dyed blue, which are called pieces of Guinea, and for which it has been in vain attempted to substitute the manufacture of Europe.

The kingdom of Bambouk, situated near the head of the river, and so enclosed between its main stream and the great branches of the Kokoro and the Faleme, as to form almost a complete island, is the next object of commercial importance to the French on the Senegal. It is almost entirely a country of mountains, whence flow numerous streams, almost all of which roll over golden sands. But the main depositaries, where the metal is traced as it were to its source, are two mountains, Natakon and Semayla. The former composes almost an entire mass of gold, united with earth, iron, or emery. The first four feet of depth consists of fat earth, from which the grains of gold are extracted by agitation with water in a calabash. Afterwards the precious metal begins to appear in small grains or spangles, and at twenty feet in small lumps of from two to ten grains. The pieces become always larger as the work descends; but the natives having no means of propping up the sides, these often fall in, and bury the workmen. Semayla, a mountain 200 feet high, presents a different structure. The gold is here embedded in hard sandstone, which must be reduced to powder before the extrication can be effected. Part of it also is found in red marble, a substance which to the natives is perfectly unmanageable. Bambouk is said to have been early conquered by a Mahometan force, and afterwards by the Portuguese; both have been driven out; and the French never made any serious attempt to establish themselves in it. They calculated, indeed, that 1200 men would be sufficient for its conquest; but were wisely deterred by the difficulty of retaining possession of so difficult a country, in so unhealthy a climate.

The point at which the French attempted to carry on the commerce of the Upper Senegal is at Fort St. Joseph, in the kingdom of Gallam, or Kajaaga. A voyage thither was reckoned to produce cent. per cent.; but the unhealthiness of the climate, the difficulties of the navigation, and the constant hazard of being plundered by a succession of barbarous chiefs, who occupy the banks, rendered it a very precarious speculation. At present the fort is abandoned, and in ruins; but the Serawoollies, who inhabit this fine country, are among the most industrious of the African tribes, and have engrossed the trade of Bambouk, Manding, and most of the upper countries on the Senegal and Niger.

In descending the Senegal, we find several populous and powerful states, among which is that of Foota Torra, extending considerably both to the south and north of the river, but of which the interior has not been explored by Europeans. The king is a zealous Mahometan, and, under pretext of making converts, has endeavoured to subdue the almost pagan Damel, or Burb, of the Jalofs. The latter, however, by the strength of his country and a prudent system of warfare, has been able to baffle his attempt. On the middle Senegal, the most important personage is the Siratic, who holds his court at Ghiorel, considerably to the north of the river. Nearer the sea is the kingdom of Hoval, governed by a petty prince, called the Great Brak, which, in the language of the country, signifies King of Kings.

The coast between the Gambia and Senegal is chiefly occupied by the kingdom of Kayor. It is stated, by Golberry, to extend 750 miles in length, and to contain 180,000 inhabitants, who are Jalofs. At the little island of Goree, on this coast, the French have established the capital of all their African settlements. Its advantages consist solely in its almost inaccessible situation on a rock, three sides of which are perpendicular, and the fourth very steep. The rock is fortified, but not, it is said, in the most skilful manner. The town contains 3000 inhabitants, and presents a very bustling scene, being the entrepôt of all the trade with the opposite coast, and also a place of refreshment for French ships on their way to India. It lies on the southern side of the peninsula, which terminates in Cape Verde, the most westerly point of the African continent. Though the soil be sandy, it bears a number of those immense trees called Baobab, which give to the Cape that verdant aspect whence it derives its name. On the northern side, two hills, 600 feet high, mark this striking geographical position, and serve as a guide to mariners.

The Gambia is almost entirely an English river; the attempts to form settlements upon it having, for nearly two centuries, been confined to that nation. They have erected James Fort in the middle of the river, by which they are enabled to command its entrance. They have also a small factory at Pisania, about forty miles up; but, like the French on the Senegal, they have never been able to realise any of those splendid expectations, with a view to which the settlements were founded. All attempts to penetrate, by ascending the river, to the regions watered by the Niger, proved abortive. Yet it was not till the expedition of Park that the failure was fully traced to its true cause, the structure of the continent, and the want of communication between the two rivers. Hence these settlements have never risen to any great importance.

The Gambia is bordered on its north bank by several flourishing little kingdoms. That immediately on the sea is Barra, said to contain 200,000 inhabitants. The capital is Barra Inding; but the chief place of trade is Jillifrey, where the king has a custom-house, to levy the duties on vessels passing up and down. Boor Salum is a still more extensive kingdom, situated on a small river that falls into the Gambia, and containing, it is said, 300,000 inhabitants. Above it, occur successively the two smaller kingdoms of Yani and Woolli. The territory of all these states is flat and fertile, abounding in rice, grain, and other provisions, but not producing any articles for the market of Europe. The inhabitants are chiefly of the Mandingo race, and carry on a considerable trade into the interior. At Barraconda, about four hundred miles up the river, are falls, or rather rapids, above which sand-banks and flats soon render the navigation difficult, while the crowd of crocodiles and hippopotami, and the multitude of wild beasts that roam on its banks, render the navigation alarming, and even somewhat dangerous.

To the south of the Gambia nothing of great importance occurs, till we come to the alluvial estuaries of the Rio Grande, a river supposed, as its name imports, to be of some magnitude; but Captain Owen found it a mere inlet, receiving some inconsiderable streams. At its mouth occur a number of islands, which, with a group opposite to them, in the open sea, form what is called the Archipelago of the Bissagos. The inhabitants of the same name, called also Bijugas, are a tall, robust, warlike people, who have driven out the peaceable race of the Biafaras, the original tenants, and have compelled them to confine themselves to the continent and the banks of the Rio Grande. Bissao, the largest of these islands, is inhabited by the Papels, also warlike and enterprising. In 1792, an association was formed in England, with a view to planting a settlement in the Island of Bulama; but, though no opposition was made in the first instance, the difficulty of establishing a new colony under circumstances so unfavourable, and especially amidst the hostility of these rude neighbours, soon obliged the English to desist.

Along the heads of the Rio Grande lies the important kingdom of Foota Jallo, said to extend about 350 miles in length, and 200 in breadth. It appears to be the most improved of all the states in this part of Africa. The inhabitants are Foulahs, and of the Mahometan faith, but not bigots; and their marabouts are held in high reputation for learning. They manufacture cloths of considerable fineness; they work in iron, dug from extensive mines in the country; also in silver, wood, and leather; and they conduct large caravans into the interior, as far even as Timbuctoo and Cassina. Here, where they are the ruling people, they by no means display that pacific character which distinguishes the tribes on the Gambia and Senegal. They can bring into the field 16,000 men, and the king is engaged in almost continual war, for the base purpose of procuring slaves for the European market. On being reproached upon this subject by Messrs. Watt and Winterbottom, he declared that he had no other means of obtaining European goods, otherwise he would gladly give up this violent and criminal mode. Timbo, or Teembo, the capital, is said to contain 7000 souls, and Laby, 5000.

To the south of Foota Jallo is Soolimana, also warlike and considerable. It borders on the Niger in the highest part of its course, though the sources of that river are placed in the hostile territory of the Kissi. The king is at present Mahometan, but the bulk of the nation pagan. They are a gay, thoughtless, stirring race. The two sexes seem to have reversed their occupations; the women till the ground, build the houses, act as barbers and surgeons; while the men tend the dairy, sew, and even wash the clothes. The king expressed to Captain Laing the same willingness to give up the slave-hunting system, and complained of the same difficulty which had been expressed at Teemboo. On the eastern side of the Niger is the country of Sangara, still more extensive and more warlike; the people of which would, it is supposed, have by this time conquered Foota Jallo, had they been united among themselves. At present, whenever the Soolimas are inclined to go to war, they can easily command ten thousand auxiliaries from beyond the Niger.

In returning to the coast, we pass through the Koorango country, inhabited by the Mandingoes, who, as usual, are gay, thoughtless, hospitable, and enterprising. Farther down are the Timmanees, a more depraved race, who were the chief agents in the slave trade. They are described as hospitable, treacherous, and avaricious. Captain Laing met a woman who accused her two children of witchcraft, and on that ground offered to sell them to him at a low price. Their agriculture is peculiarly rude, and the cloths of their manufacture very coarse. They abuse the English as having deprived them of almost their only source of wealth, which consisted in the sale of slaves. This people are oppressed by a singular association called Purrah, who, united by a bond and always supporting each other, have become almost masters of the country, and often exercise their power in a very tyrannical manner.

The country of the Timmanees borders on that part of the coast where Britain, with the most philanthropic views, has founded the colony of Sierra Leone. Its principal seat, at Freetown, is on the south side of the bay, which receives the river formerly called by the same name, but now more usually the Rokelle, and which arises in the Soolimana country. The first colonists consisted of a number of free negroes, who, having been dismissed from the army and navy at the end of the American war, gladly accepted the proposal made by a number of benevolent individuals, of a settlement in their native region. They did not, however, possess all the habits necessary for struggling with this difficult undertaking. The rains came on; a pestilential fever carried off numbers; and the attack of an African chief obliged the remainder to take shelter on Bance Island. The zeal for the improvement of Africa, however, continued unabated in England; and in 1787, the Sierra Leone Company was formed, with a charter for thirty-one years. They sent out five vessels with stores and articles of trade, and obtained a large reinforcement from the free negroes who, in the American revolution, had adhered to the royal standard, and had been obliged to take shelter in Nova Scotia. The establishment was then conducted with fresh spirit; but it had many difficulties to encounter. It was disturbed by internal dissension; it was involved in contests with the bordering native states; and, in 1794, was plundered by a French squadron. Under all these disasters it continued active; though the Sierra Leone Company were obliged to resign their concerns into the hands of government, which placed them under the African Institution. A great reinforcement to its population was derived from the negroes taken in slave ships, and brought back to Africa, in consequence of the laws made against the slave trade; *though it has been somewhat difficult to initiate them into the habits of civilised life. With this view, the Church Missionary Society have undertaken to furnish schools and religious instructors; and upwards of two thousand children are now educated on the national system.* The population of Freetown and its suburbs has extended to nearly five thousand; eight or ten little towns or villages have been established in its vicinity, forming an entire population of twelve thousand; and another, called Bathurst, has been founded on the Gambia, in a healthy situation, and communicating with the populous countries on that river. Notwithstanding all this, it appears too true, that Sierra Leone has not yet made any impression upon Africa, and that there is no radius of civilisation proceeding from it. It labours under two great disadvantages; the extreme unhealthiness of the climate, which both keeps down its population, and renders it difficult to procure well qualified persons to go out, and also, its unfavourable position, in contact only with a few turbulent tribes, not with any of the great and leading states of the continent. These disadvantages, joined to the death of four successive governors, among whom was Col. Denham, the celebrated traveller, led government to hesitate as to the expediency of supporting this colony, after 3,000,000*l.* had been expended in its formation. To withdraw it, however, would be attended with many evils, so that an attempt has been made to maintain it on a more limited scale. The European troops have been removed, and their place supplied by negroes, and the annual expenditure has been reduced to about 40,000*l.*, of which 17,000*l.* is for liberated Africans. The number of these, in 1829, was 21,205, of whom about 5000 were in Freetown, the capital; the rest dispersed in Regentstown, Gloucester, Wellington, and other large villages in the vicinity.

The space from Sierra Leone to the commencement of the Grain Coast of Guinea, an extent of about two hundred miles, is chiefly marked by the entrance into the sea of the considerable rivers of Sherbro and Mesurado. The former is navigable twenty leagues up, and has a tolerably large island at its mouth. On the banks is found a species of pearl oyster. The Mesurado is a still larger stream, and very rapid. According to the natives, it requires three months' navigation to reach its source, which would appear to be in the mountains of Kong, not very far from that of the Niger. The banks are described as finely wooded, fertile, and, in many places, very well cultivated. The states here are entirely negro in religion and manners, none of the Mahometan institutions having penetrated so far. Travellers enumerate the kingdoms of Bulm, Quoja, Monon, and Folga, which they sometimes even dignify with the title of empires. The sovereigns are in general absolute, and their obsequies are celebrated with human sacrifices, though not to the same frightful extent as in some of the countries to the west.

The American Colony of Liberia was founded by the American Colonization Society in 1821, for the purpose of facilitating the gradual emancipation of slaves in the United States. The spot selected for the first settlement was a little elevated peninsula, lying between the mouth of the river Mesurado or Montserado and the sea, and terminating in a cape of the same name. After suffering much from the hostility of the natives, with whom it had to sustain several severe conflicts, this little colony has at length obtained tranquillity, and is in an exceedingly prosperous condition. The territory over which its jurisdiction now extends, lies between Cape Mount and Cape Palmas, or between 4° and 7° N. lat., occupying about 225 miles of coast, with a breadth of from twenty to thirty miles inland. The climate is found to be healthful, although emigrants are liable to be attacked by the country fever on their first arrival. Its fertile soil yields rice, cotton, coffee, sugar, indigo, banana, cassada, yams, &c. Camwood is abundant, and the timber is durable and well adapted for building. The natives are the Deys, an indolent and inoffensive people, occupying the coast on both sides of the Mesurado, to the number of about 7000 or 8000; the Bassas, also a peaceful, but more industrious and numerous people farther south, and the Queahs and Condoes in the interior. There are also scattered settlements of Kroomen, whose native country is near Cape Palmas, and who are a laborious and hardy race, acting as pilots, porters, and oarsmen for the trading vessels on the coast; they commonly speak English. The settlement on Cape Mesurado, which received the name of Monrovia, is now a town of about 2000 inhabitants; and Caldwell and Millsburg, higher up the river, have each nearly half that number. Edina, about sixty miles from Monrovia, on the south-west side of the St. John's river; Bassa Cove, which, though lately desolated by the natives, has been reoccupied; and Harper, a neat little village at Cape Palmas, are the other principal settlements. The colonists consist of free blacks, of emancipated slaves, and of recaptured Africans. The whole number is about 5000. The general direction of affairs is in the hands of the Society's agent, but the local interests of the colony are confided to the care of colonial councils and magistrates. Already neat frame or stone buildings have been erected for houses and warehouses, schools have been provided, churches built, and a press been set up, from which is issued a respectably conducted newspaper. The native traders of the interior have visited the colony, and an active commerce is carried on partly in colonial shipping, and partly by American and European vessels. Palm oil, ivory, dye wood, hides, wax, and pepper, are among the articles of export, in addition to the productions before enumerated.

From the Mesurado to Cape Palmas extends what is commonly called the Grain or Malaghetta coast of Guinea. The species of pepper to which it owes its name is produced from a small parasitical plant, with beautiful green leaves, and the fruit of which, resembling a fig, presents, when opened, aromatic grains, forming the valuable part. At its first introduction into Europe, where such articles were little known, it received the flattering appellation of "Grains of Paradise." After the diffusion, however, of the fine species of India, it fell into total disrepute; and this coast, producing no other articles of export, has been the least frequented of any part of Guinea. The two rivers of Sestro and Sangwin, near the centre of the coast, are rather considerable; and their banks are said to be fertile and populous. The state of society seems to be nearly the same as in the countries last described; the sovereigns absolute, human sacrifices prevalent to a certain extent, and also self-immolation, the wife being, in many cases, expected to sacrifice herself at the grave of her husband. Great sway is in the hands of a peculiar priesthood, called the belli. The youthful candidate for a place in this body must qualify himself by a long initiation, during which he is withdrawn from all his friends, and lodged in the depth of a sacred forest, where, it is said, he is kept in a state of entire nudity. Among the tests of his proficiency is the performance of songs and dances of a very extravagant and often indecent nature; but peculiar knowledge is also supposed to be communicated on various high points; and those who have gone through the course with success, and are called the "marked of the belli," look upon all the rest of the community as quolga, or idiots. They not only administer all the concerns of religion, but conduct the judicial proceedings; most of which are made dependent on some form of ordeal. Although the Portuguese have lost all their settlements in this part of Africa, considerable numbers of their posterity reside there, mixed with the natives, by whom they are treated with some degree of respect.

Beyond Cape Palmas, the coast, turning to the north-east, and reaching as far as Cape Apollonia, is called the Ivory Coast. The name is evidently derived from the quantities of that valuable product, obtained from the numerous elephants on the sea-shore, and in the interior. The teeth are of good quality, and uncommonly large, weighing sometimes not less than 200 lbs. Towards the east, at Issini and Apollonia, a considerable quantity of gold is brought down from the countries behind the Gold Coast. There is also a good deal of ivory at the ports of Cape Lahoo, and Great and Little Bassain. There are no European settlements upon the coast, except an English fort at Apollonia, which perhaps belongs rather to the Gold Coast. Navigation along this as well as the Grain Coast requires much caution, as the shore is flat and destitute of any conspicuous landmarks, while a heavy surf, borne in from the whole breadth of the Atlantic, breaks continually against it. Early navigators describe the natives as the most violent and intractable race on the whole African coast.

Their teeth filed to a point, their long nails, their harsh and guttural language, almost resembling the cry of wild beasts, inspire disgust; they have even been accused of cannibalism; and their suspicion of Europeans is usually said to be so great, that nothing can induce them to go on board a vessel. It is but justice to observe, however, that Captain Adams, the most recent visiter, gives a much more favourable account. He even says, that almost all the business is transacted on board European ships, though, when he did go on shore, he was hospitably received.

From Apollonia to the Rio Volta extends what is called the Gold Coast of Africa. It was long the most frequented by European traders, particularly English and Dutch, both for that highly prized commodity which its name indicates, and for slaves, while they were a permitted article of trade. The coast presents the appearance of an immense thick forest, only detached spots of which are cleared and cultivated. The soil near the sea, being light and sandy, is scarcely fit for any important tropical product, except cotton; but six or seven miles inland, it improves greatly, and might be made to produce sugar and others of the richest West India products, provided habits of industry could be introduced among the inhabitants. Maize is the grain principally cultivated. The gold, which forms the staple commodity, is chiefly brought down from mountainous districts far in the interior. In many places, however, even upon the coast, a small quantity may be extracted from the earth by mere agitation with water in a calabash. Little or no ivory is exported. The ruling people on the coast are the Fantees, a clever, stirring, turbulent race. They exert more ingenuity in the construction of their dwellings and canoes than the nations to the west. The form of government is republican, and each village has a large public hall, roofed, but open at the sides, where an assembly is held, and public affairs are debated. The pynims, or elders, however, possess considerable authority, and the administration of justice is chiefly in their hands. An excessively litigious disposition prevails, particularly against those who are supposed to have accumulated great wealth, and who, unless they can disarm public envy by moderation or popularity, are often, between suitors and lawyers, stripped of every thing. The dreadful custom of immolating human victims over the tombs of the great men very generally obtains, and is accompanied with several days of tumultuous feasting and intoxication. As usual, in this state of society, all the laborious offices devolve upon the female sex, except fishing, which is considered an employment sufficiently dignified for the lords of the creation. Yet the Fantee ladies find time to spend an hour or two at the toilette, in which they employ various cosmetics, not omitting paint, which is generally white. The Fantees have of late suffered severely by the invasion of the Ashantees, which had been provoked perhaps by their own violent conduct, and which their want of courage renders them quite unable to resist. Britain, which, perhaps imprudently, interfered in their support, has suffered severely in the attempt; and the terror of her arms alone maintains the Fantees at present in a state of doubtful independence.

The capital of the British settlements is at Cape Coast Castle, built upon a rock, and defended by strong walls of stone and brick, and by ninety pieces of cannon. The approach on the sea-side would be difficult for an enemy; but the fort has the disadvantage of being too near a large, dirty native town of eight thousand souls. The country round has been a good deal cleared, and laid out in pleasure grounds by the British, to whose health, however, the climate in this and the other settlements is extremely unpropitious. To the west of Cape Coast, the English have Dix Cove and Succondee, in the Ahanta country, a very fertile tract, and to which purer gold is brought than to any other part of the coast. The inhabitants are also peaceable and tractable, and the chances of improvement, as Mr. Meredith conceives, are on the whole favourable. It is to the east that the British have their principal settlements. That at Anamaboe was formerly the great mart of the slave trade. The fort is compact and regular, and in 1809 it withstood, with a garrison of twelve men, the attack of 15,000 Ashantees. Winnebah, in the Agoona country, though in an agreeable situation, has been abandoned; but Fort James, at Accra, would, in peaceable times, afford great conveniences for trade, as no other on the coast has such extensive intercourse with the interior. It and Cape Coast, indeed, are now the only places where any garrison is maintained.

The capital of the Dutch Settlements is El Mina, or the Castle; first founded by the Portuguese, and taken from them in 1637. It is about fifteen miles west of Cape Coast, in an open country, close to a large dirty town of 15,000 inhabitants. The fort is well built, on a high situation, and vessels of a hundred tons can come close to the walls; but its strength has been doubted. The Dutch maintain here a garrison of 150 men, and keep their establishment, on the whole, upon a more reputable scale than the British. Their forts along the coast are almost numberless; particularly in the Ahanta country, where there are no less than seven. The Danes have a respectable fort at Accra, called Christianborg Castle, and also one at Ningo, near the eastern extremity of the coast.

The country behind the Gold Coast, when first known to Europeans, was divided among a number of considerable kingdoms; Dinkira, Akim, Warsaw, and Aquamboe; but all these have now sunk beneath the overwhelming sway of Ashantee. This warlike power has also reduced the interior countries of Gaman, Inta, Dagwumba, and others, of which some are more extensive and populous than itself. Ashantee Proper is estimated to contain 14,000 square miles, and about a million of people; but this last number would be more than quadrupled, if we were to include all its subjects and vassals. The attire of the sovereign and his principal chiefs displays a peculiar and barbarous splendour; their persons being loaded with golden rings and ornaments, waving plumes and superstitious amulets (*fig.* 835.). The people are, on the whole, of a superior class to those on the coast; their houses are larger, more commodious and ornamented; they manufacture finer cloths. Their manners are more polished and dignified, and their general conduct more orderly. The king is absolute, with the exception of a military council of four principal officers, whom he is obliged to consult on questions of peace and war, and who usually give their voice in favour of the latter. There are, however, some features in this monarchy which surpass in barbarism those of almost any other. The fury with which war is conducted is, indeed, too general among barbarians, but Ashantee is horribly distinguished by the vast amount of human sacrifice. There are two annual customs, as they are called, in which the king and chief men seek to propitiate the manes of their ancestors by a crowd of victims. Foreign slaves and criminals are selected in preference; but, as each seeks to multiply the number, unprotected persons cannot walk the streets, without the hazard of being seized and immolated. At the death of any of the royal family, victims must bleed in thousands; and the same is the case when the king seeks from the powers above favourable omens respecting any great projected undertaking. The abuse of polygamy also is carried to the highest pitch. The legal allowance of wives for the king is upwards of three thousand, selected from the fairest damsels in his dominions. These unfortunate creatures are in general no better than slaves, and, on any capricious disgust, are treated with the greatest cruelty, and often put to death. Yet this barbarous king is not without a desire to civilise his subjects, and to adopt European arts and improvements. He has occupied himself in erecting a palace of stone, in the European style, under the direction of an artist from El Mina, instead of the structures of earth and straw to which the architecture of Africa has hitherto been confined. He seeks also to promote by every means the commerce of his subjects, and to open a communication with the sea, to which, however, the late unhappy difference with Britain has been a considerable bar. Gold is now the most valuable article of export, not produced within the country, but brought in large quantities from the mountainous regions of the north. He still clings to the slave trade, a mode of procuring European luxuries too congenial with his habits; and so natural did he consider it, that he could with difficulty be dissuaded from sending fifty boys and the same number of girls as presents to the king of England.

835

Ashantee Chief.

On the eastern side of the Rio Volta commences what Europeans have called the Slave Coast, because slaves were there procured of the most docile and tractable character. It consisted originally of the two kingdoms of Whidah and Ardrah, forming the most populous and the best cultivated part of the African coast. The vast and impenetrable forests which cover so much of that continent had here been cut down, leaving only what was requisite for ornament and convenience. The whole country was like a garden, covered with fruits and grain of every description. Amid this abundance, the Whidans, having become luxurious and effeminate, were unable to make head against the warlike power of Dahomey, in the interior, which invaded and conquered them at the beginning of the last century. The first ravages were dreadful, and rendered their country almost a desert, nor has its peaceful submission ever allowed it to regain its former prosperity.

Dahomey, which is thus predominant both over the coast and over the interior, to a depth of about two hundred miles, is governed upon the same system as Ashantee, and with all its deformities, which it carries to a still more violent excess. The bloody customs take place on a still greater scale; and the bodies of the victims, instead of being interred, are hung up on the walls and allowed to putrefy. Human skulls make the favourite ornament of the palaces and temples, and the king has his sleeping apartment paved with them. His wives are kept up to an equal number with those of the king of Ashantee. All the female sex is considered as at the king's disposal, and an annual assemblage takes place; when, having made a large selection for himself, he distributes the refuse among his grandees, who are bound to receive them with the humblest gratitude. In short, this ferocious race allow themselves to be domineered over in a manner of which there is no example among the most timid and polished nations. The greatest lords, in approaching the king, throw themselves flat on the ground, laying their heads in the dust; and the belief is instilled into them, that their life belongs entirely to their sovereign, and that they ought never to hesitate a moment to sacrifice it in his service. The king of Dahomey has been lately worsted in his wars with Eyeo, by which he is now held in a species of vassalage. His country consists of an extensive and fertile plain, rising from the sea by a gradual ascent. The soil is a reddish clay mixed with sand, and nowhere contains a stone of the size of a walnut. Though capable of every species of tropical culture, little is actually produced from it that is fitted for a foreign market; so that, since the abolition of the slave trade, small advantage has accrued from continuing the intercourse with it, and the English fort at Whidah has been abandoned.

Whidah, now commonly called Griwhee, may be considered the port of Dahomey, from which a route of about a hundred miles reaches through Favies and Toro to Abomey, the capital. Griwhee is situated in a fertile country, still highly cultivated, and is plentifully supplied with all the necessaries and conveniences of African life. Captain Adams, whose estimates on this point are unusually low, represents it as containing about 7000 inhabitants. The despotic and capricious manner, however, in which foreign residents are treated by the tyrant of Dahomey, has gradually induced the different European powers to withdraw their factories. Ardrah is still larger and more flourishing; containing, according to the same authority, 10,000 inhabitants. It is situated about twenty-five miles inland, on a long and beautiful lake or lagoon, running parallel to the sea, with which it becomes connected at its eastern extremity by the River of Lagos. The Ardranese are industrious in the manufacture of cotton interwoven with silk: they make also soap, baskets, and earthenware, and are skilful in working iron. Their market is the best regulated of any on the coast, and exhibits the manufactures of India and Europe, tobacco from Brazil, cloth from Eyco and Houssa, and every other article that is here in demand. Though so close to Dahomey, the people appear to enjoy a republican form of government. A considerable number of Mahometan residents have made their way hither, and have introduced the management of horses, and the use of milk, to both of which the negroes in general are strangers. Badagry, though it has suffered by recent contests with Lagos, appeared still, by Lander's report, to be a large and populous place, situated in a fine plain, and divided into four districts, each governed by a chief, who assumes the title of king. Lagos is built upon a small island, or rather the bank at the point where this channel communicates with the sea on one side, and on the other with the Cradoo lake, a parallel piece of water. The town is scarcely a foot above the lake, and is over-run by water-rats from it. It has 5000 inhabitants, with a good deal of stir and trade. Its petty despot assumes all the airs of the greatest African monarchs, never allowing his courtiers to approach him unless crawling on the ground. Some barbarous customs prevail, such as impaling alive a young female, to propitiate the goddess who presides over rain, and hanging the heads of malefactors to some large trees at the end of the town. The currency here consists of cowries, which are imported in large quantities, and transmitted into Houssa and other interior countries, where they form the universal circulating medium.

At the termination of the Cradoo lake commences a large tract of coast, of a peculiar character, which, from the principal state, receives the name of Benin. It extends upwards of two hundred miles, and presents a succession of broad estuaries, now discovered to be all branches of the Niger, of which this country forms the delta. They communicate with each other by creeks, and, frequently overflowing their banks, render the shore for twenty or thirty miles inland, a vast alluvial wooded morass. The natives, having thus very extended water communications, are the most active traders anywhere in Africa; but, except slaves, the commodities in which they deal are entirely changed. Gold has disappeared; ivory is again found in considerable plenty; but palm oil is the great staple of the eastern districts. A great quantity of salt is made at the mouths of the rivers, both for consumption at home and in the interior. This tract, however, from its low, marshy, and woody character, is excessively pernicious to the health of Europeans.

The first leading feature is the river Formosa, two miles wide at its mouth; on a creek tributary to it lies the capital of Benin. This city is one of the largest on the coast of Africa; and, being built quite irregularly, and consisting of detached houses, it occupies an immense space of ground. The surrounding territory is well cultivated, though not so thoroughly cleared of wood as that round Ardrah and Whidah. The king is not only absolute, but fetiche, or a god, in the eyes of his subjects; and all offences against him are punished in the most cruel and summary manner, not only as treason, but impiety. Gatto, about fifty miles below, is the port of Benin; accessible to vessels of sixty tons. The trade on this river has greatly declined.

Warré, or Owarri, is another state and city, situated on another creek, communicating with the Formosa, on its opposite side. It consists of a somewhat elevated and beautiful island, appearing as if dropped from the clouds amidst the vast woods and swamps by which it is surrounded. Here, too, the king is absolute, and carries polygamy to a very great extent. A late traveller, happening to get a peep into the seraglio, saw about fifty queens, busied in various employments from the toilette to the washing-tub. New Town, on the Formosa, is the port of Warré.

After turning Cape Formosa, and passing several estuaries, we come to that of the Brass River, called, by the Portuguese, the river of Nun. Though not the largest estuary of the Niger, yet being most directly in the line of the main stream, and that by which Lander entered the Atlantic, it at present enjoys the reputation of being the principal channel. It is divided into two branches; but the navigation is greatly impeded, and the trade limited, by a dangerous bar at its mouth. Brass Town is built not on either branch, but on one of the numerous creeks connected with both, and in a country overgrown with impenetrable thickets of mangrove. It is a poor place, divided by a lagoon into two parts, each of which contains about 1000 inhabitants. Bonny River forms the next important estuary, having on its opposite sides the towns of Bonny and New Calabar. Being only a few miles up, they are in the midst of the morasses which overspread all this country. The people support themselves by the manufacture of salt and the trade in slaves and palm oil. Bonny, in particular, is become the great mart for these last commodities, and is supposed to export annually about 20,000 slaves. The dealers go in large canoes two or three days' sail to Eboe, the great interior market, which will be described under the head of Central Africa. The king is absolute, and more barbarous than the rest of his brethren on this coast. He boasts of having twice destroyed New Calabar, and ornaments his fetiche house with the skulls of enemies taken in battle.

After Bonny is the estuary of Old Calabar river, the broadest of all, and navigable for large vessels sixty miles up to Ephraim Town, governed by a chief, who assumes the title of duke. It appears to contain about 6000 inhabitants, carrying on a considerable trade; and the duke has a large house filled with European manufactures and ornaments of every kind, received by him in presents. This river is followed by that of Rio del Rey; and then by the Rio Cameroons. These rivers are very unhealthy; but they yield a good deal of ivory and palm oil. The continuity of that vast wooded flat, which has extended along the coast for more than 200 miles, is now broken by some very lofty mountains, the principal of which is supposed to reach the height of 13,000 feet.

Several islands which lie in the Gulf of Benin may terminate the description of this coast. They are, Fernando Po, a fine high large island, lately occupied only by a lawless race, composed of slaves or malefactors escaped from the neighbouring coast. The British government, however, upon the disappointment experienced in regard to Sierra Leone, formed, in 1827, a settlement at this island, the mountainous and picturesque aspect of which afforded hopes of a healthy station but these have been completely disappointed. Of thirty European settlers taken out, nineteen died; and Col. Nicholls, the governor, was three times attacked with fever. Hopes have been held out, that by a change in the situation of the town, this evil might be greatly mitigated, and Fernando Po would then acquire a double importance, from its vicinity to the mouth of the Niger. Prince's Island is high and wooded; St. Thomas is large and fertile; the petty isle of Annabona is inhabited by a simple native race. These run in a chain to the south-west from the Rio Calabar; and the last three are in nominal subjection to the crown of Portugal.

The next division of Western Africa consists of Congo, Loango, Angola, and Benguela, to the coast of which navigators generally give the name of Angola. The principal feature is the Zaire, or Congo, a powerful and rapid river, which rushes by a single channel into the Atlantic. Its course was traced upwards by Captain Tuckey, in his unfortunate expedition, 280 miles, yet nothing was ascertained as to its origin and early course; though the hypothesis of its forming the termination of the Niger is now completely refuted. The natives of Congo are rather of small size; they are cheerful and good-humoured, but unreflecting, and possessed of little energy either of mind or body. The negro indolence is carried in them to its utmost excess. The little cultivation that exists, entirely carried on by the females, is nearly limited to the manioc root, which they are not very skilful in preparing. Their houses are put together of mats made from the fibres of the palm tree, and their clothes and bedding consist merely of matted grass. The population along the river is very small; the largest villages, Cooloo, Embomma, and Inga, containing only from 300 to 600 inhabitants. The interior capital of Congowar, however, mentioned as the residence of the Blindy of Congo, to whom all the chiefs pay a species of vassalage, is probably what the Portuguese called St. Salvador; and where, according to Mr. Bowdich, they still maintain a mission; but no recent details have been obtained respecting it. There is a regular distinction of ranks: the Cheenoo, or chief, hereditary in the female line; the Mafoots, or collectors of the revenue; the Foomoos, or cultivators; and the domestic slaves, not numerous. The chiefs have many wives, whom they make the victims of the most scandalous traffic; frequently tendering their favours to Europeans at a very trifling rate.

The slave trade, for which alone this part of Africa is now frequented, is chiefly carried on at Malemba and Cabenda, on the north side of the river. Malemba has been called the Montpelier of Africa. It stands on a hill about 100 feet high, commanding a beautiful prospect of the windings of the Loango Louisa through an extensive plain. Its dry and elevated situation preserves it from those deadly influences which elsewhere operate so fatally on the health of mariners. Cabenda, near the mouth of the river of that name, also a beautiful city, is situated at the foot of a conical wooded mountain, and has been called the Paradise of the Coast. It is a great mart for slaves, who are brought from the opposite territory of

Sogno: but the natives, contrary to their general character in this region, are rude and difficult to treat with.

The country to the south of Congo is called Benguela, and its commerce is still almost entirely in the hands of the Portuguese. They frequent the bay and river of Ambriz, in which there is a tolerable roadstead; but their great settlement is at St. Paul de Loanda, a large town in an elevated situation. It exports annually 18,000 or 20,000 slaves, chiefly to Brazil. S. Felipe de Benguela, in a marshy and unhealthy site, is now considerably declined; and its population does not exceed 3000, mostly free negroes and slaves. There is also a smaller port, called Nova Redondo. The Portuguese claim a certain jurisdiction over the native states for several hundred miles in the interior, obtaining presents and purchasing slaves. Farther inland is the country of Jaga Cassanga. The Jagas are celebrated by the writers of travels, two centuries ago, as a formidable devastating tribe, addicted to the most ferocious habits; and rumour does not represent any change as having taken place in their character. Behind them, and in about the centre of the continent, is said to be the nation of the Molouas, represented as more numerous, more intelligent, and to have attained a higher degree of industry and civilisation than any other in Africa under this latitude. The country abounds in valuable copper. The king, however, is absolute, and the atrocious custom of human sacrifice prevails.

CHAPTER VII.

SOUTHERN AFRICA.

Southern Africa, by its mere name, sufficiently indicates the part of the continent to which the somewhat vague appellation is applied. Generally speaking, it is given to the territory discovered and partly colonised by Europeans, from that important settlement which they formed at the Cape of Good Hope.

Sect. I.—*General Outline and Aspect.*

The surface of this region is striking and peculiar, presenting three successive mountain ranges, running parallel to the coast and to each other. The first, called Lange Kloof, is between 20 and 60 miles from the ocean, the breadth of the intermediate plain being greatest in the west. The second chain, called the Zwaarte Berg, or Black Mountain, rises at an interval nearly similar behind the first, is considerably higher and more rugged, and consists often of double or even triple ranges. Behind, at the distance of 80 or 100 miles, rises the Nieuweldts Gebirgte, the loftiest range in Southern Africa. The summits, to a great extent, are covered with snow; from which circumstance the eastern and most elevated part is called the Sneuwberg, or Snowy Mountains, whose highest pinnacles are not supposed to fall short of 10,000 feet. The plain nearest the sea is fertile, well watered, richly clothed with grass and trees, and enjoys a mild and agreeable climate. The plains between the successive ranges are elevated, and contain a large proportion of the species of arid

References to the Map of Southern Africa.

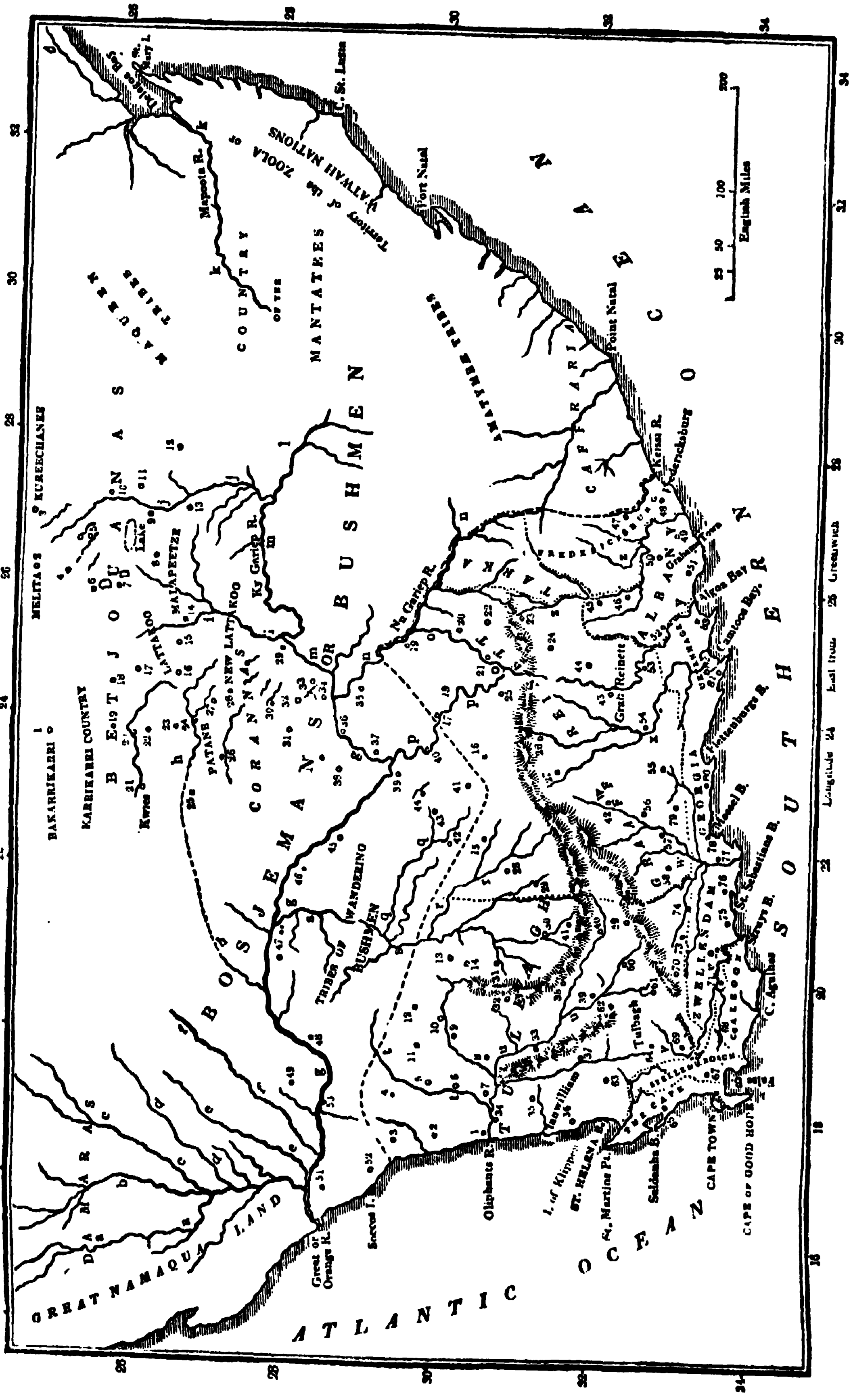
1. Bakarrikarri
2. Melita
3. Kureechanee
4. Cheye
5. Seikahely
6. Mashow
7. Meribowhey
8. Taykeeso
9. Yattaba
10. Khing
11. Moquanna
12. Boukletee
13. Boqueen
14. Malapeetzee
15. Marabay
16. Old Lattakoo
17. Desert Station
18. Giraffe Station
19. Terminalia Station
20. Hot Station
21. Kwies
22. Sand Station
23. Kuru
24. Patanee
25. Tureehey
26. Chopo
27. Krumen
28. New Lattakoo
29. Bushman's Kraal
30. Knegt's Fountain
31. Seusavan
32. Griqua
33. Campbell Town
34. Spnigaland
35. Konnah
36. Brakke
37. Bern's Kraal
38. Hardcastle
39. Kaabi's Kraal
40. Quakka Station
41. Bush Dove Place
42. Dwaal
43. Brakke-river
44. Buffet-bout
45. Hans Haiman
46. Orlam's Kraal
47. Pella
48. Zebra Fn.
49. Warm Baths
50. Kams
51. Hol-gat
52. Vander Hyvers.

CAPE COLONY.

1. Bakovan
2. Valleitjes
3. Lang Klip
4. Leeuwenkuil
5. Leedwendans
6. Dassen
7. Wolfgift
8. Moedverloren
9. Oorlog's Kloof
10. Matje's Fn.
11. Brakke
12. Akkerengam
13. Eland's Fn.
14. Hartebeeste
15. Gaertuer's Fn.
16. Pinnaars
17. Nieuw-jaars Fn.
18. Eland's Fn.
19. Hephzibah
20. Toornberg
21. Boulhouders Draai
22. Naawe
23. Bull Fn.
24. Hyena Station
25. Geranium Rocks
26. Brakke Fn.
27. Waai Fn.
28. Karrie
29. Bontoberg
30. Koornland's Kloof
31. Matje's Fn.
32. Rhenoster Bosch
33. Van Wyk's Fn.
34. Wolfaarts
35. Jackal's Vall.
36. Riet Fn.
37. Clanwilliam
38. Olyven-bosch
39. Jan Klaaf's Fn.
40. Vischers Fn.
41. Klip Fn.
42. Beaufort
43. Graaf Reynet
44. Kruidt Fn.
45. Roodewal
46. Stockenstrom's Fn.
47. Fort William
48. Fredericksburg
49. Bathurst
50. Graham's Town
51. Theopolis
52. Enon
53. Drie-kops
54. De Beer's Valley
55. Goede-hoop
56. Remhoogte
57. Blauwekrans
58. Slagter's Fn.
59. Kabelton
60. Hang Klips
61. Karra Pt.
62. Jackal's Kl.
63. Klip Fn.
64. Tulbagh
65. Gelbek
66. Cape Town
67. Stellenbosch
68. Caledon
69. De Liefde
70. Meyntjes-hook
71. Breederiven
72. Zwellendam
73. Reed Fn.
74. Zoute Vlalde
75. Zuurbrak
76. Yzerhout
77. Gauritsriver
78. Georgia
79. Steutel Fn.
80. De Poort
81. Kippendrift
82. Suka
83. Uitenhage.

Rivers.

a Guaquipa
b Kookip
c Gamna
d Lion
e Kameeldoorn
f Giep
g Orange
h Kruman
i Hart
j Mobatee
k Mapoota
l Donkin
m Ky Gariep, or Yellow
n Nu Gariep, or Black
o Zeekoe
p Brak
q Hartebeeste
r Groot Kiet
s Zak
t Kromme
u Klein Doorn
v Breede
w Gamka
x Groote
y Sunday
z Great Fish.


ATLANTIC OCEAN
SOUTHERN OCEAN
GREAT NAMAQUA LAND
DAMARAS
BOSJEMANS OR BUSHMEN
CORANNAS
BECHUANAS
KARRIKARRI COUNTRY
BAKARRIKARRI
MELITAOS
KUREECHANES
MAQUEEN TRIBES
COUNTRY OF THE MANTATEES
Territory of the ZOOLA or VATIVAH NATIONS
AMATYMBE TRIBES
CAFFRARIA
CAPE COLONY
ALBANY
GRAAF REINET
GEORGE
UITENHAGE
SWELLENDAM
STELLENBOSCH
CAPE
WANDERING TRIBES OF BUSHMEN
LATTAKOO
NEW LATTAKOO
MALAPEETZE
PATANE
Kuruman
Lake
Ky Gariep R.
Nu Gariep R.
Great or Orange R.
Oliphants R.
Sneeuw I.
Mapoota R.
Delagoa Bay
St. Mary I.
C. St. Lucia
Port Natal
Point Natal
Keiska R.
Frederickburg
Graham's Town
Algoa Bay
Camtoos Bay
Plettenberg's B.
Mossel B.
St. Sebastians B.
Struys B.
C. Agulhas
CAPE OF GOOD HOPE
CAPE TOWN
Saldanha B.
St. Martins Pt.
ST. HELENA B.
I. of Klipper
Clanwilliam
Tulbagh
Graaf Reinett
English Miles
0 25 50 100 200
Longitude 24 East from Greenwich
18 20 22 24 26 28 30 32 34
26 28 30 32 34

desert called Karroo. The southern plain, in particular, is almost entirely composed of the great Karroo, 300 miles in length and nearly 100 in breadth, covered with a hard and impenetrable soil, almost unfit for any vegetation. Along the foot of the Sneuwberg, however, there is a considerable tract, finely watered, and affording very rich pasturage. Beyond the mountains, the territory is for some space bleak and sterile; but it gradually improves till it opens into the extensive pastoral plain occupied by the Boshuanas. So far as this has been explored to the northward, it becomes always more fertile, though to the west there has been observed a desert of very great extent. The eastern coast also consists chiefly of a fine pastoral plain, occupied by the various Caffre tribes, and broken by some chains of mountains, the direction of which has been very imperfectly explored.

Rivers do not form a prominent feature in a country of which the general character is arid. The principal are those which flow down from both sides of the great boundary chain of the Nieuweldt Mountains, particularly in the eastern quarter, where it becomes both more lofty and more distant from the coast. On the side of the colony, it gives rise to the Camtoos, the Zoondag, and the Great Fish River, which last, though the most considerable, has not a course of much more than two hundred miles. The smaller and more westerly streams of the Breede, and the Gansely, with its tributary the Oliphant, are chiefly fed from the inferior chains along whose base they flow. On the northern side, the waters which descend from the Snowy Mountains unite and form the Orange River, which, having flowed, first north-west and then due west, through long ranges of rude and desert territories, falls into the Atlantic in about 28° 30′ S. lat., after a course, which, with its windings, must considerably exceed a thousand miles. In the Caffre territories, several estuaries open into the Indian Ocean, the early course of which is little more than conjectured; but travellers through the Boshuana territory crossed streams which, from their direction, appeared likely to reach that receptacle.

SECT. II.—*Natural Geography.*

SUBSECT. 1.—*Geology.*

This district is bounded on the north and east by the Orange and Fish rivers; on the west and south by the ocean. The country extends from S. lat. 28° to S. lat. 35°, that of the Cape Lagullas.

Peninsula of the Cape of Good Hope.—The rocks of which this tract is composed, are granite, gneiss, clay slate, greywacke, quartz rock, sandstone, and augite greenstone, or dolerite. Of these the most abundant are granite and sandstone; the next in frequency are clay slate and greywacke; and the least frequent are gneiss and dolerite. In some parts, as Steinberg, the sandstone is traversed by veins of red iron ore. The Neptunian formations, viz. the gneiss, clay slate, greywacke, quartz rock, and sandstone, are variously altered and upraised by the granite, and traversed by veins of the augite greenstone. The hill named Lion's Rump is composed of clay slate, greywacke, and sandstone; granite forms a considerable part of the Lion's Head; the Table Mountain, in its lower and middle part, is composed of red sandstone, clay slate, and greywacke, which rest on granite: the upper part of the mountain exhibits magnificent displays of horizontally stratified sandstone. The Devil's Peak has the same general structure and composition as the Table Mountain.

The ranges of mountains which run northward from the Cape peninsula to Orange or Gariep River are composed of granite and slate, with vast deposits of sandstone and quartz rock, with numerous table-shaped summits; thus showing a similarity of composition in these mountains to those of the Cape peninsula. The three great ranges of mountains that run from east to west are of the same general nature, and characterised by the vast abundance of sandstone reposing in horizontal strata upon the granite and slate, forming the middle and very often the highest parts of the chain.

Geology of the Table-land.—From the third range onwards to lat. 30° S., the prevailing rock in the plains and hills is sandstone. At Dwaal River, the frontier of the colony, there are rocks of augite greenstone and basalt, probably traversing the sandstone. The Kareebergen, or Dry Mountains, beyond the limits of the colony, are principally composed of sandstone, in horizontal strata, and everywhere exhibit beautiful table-shaped summits. This sandstone rock continues onward to lat. 30° S., to near Mud Gap, where true quartz rock and vesicular trap appear. In lat. 29° 15′ 32″ S., mountains, called the Asbestus Mountains, composed of clay slate, disposed in horizontal strata, occur; thin veins of asbestus traverse the slate. In the same mountain green opal and pitchstone occur. To the north of these mountains, at Klaarwater, are vast beds of limestone, disposed horizontally, enclosing organic remains. In conclusion, it may be remarked, that, as far as is known at present, the whole of the table-land of Africa to the north of the Orange River is composed of limestone in horizontal strata, clay slate, sandstone and quartz rock, granite, greenstone, serpentine, and potstone.

Subsect. 2.—*Botany.*

If our botanical observations on certain countries are often limited for want of information, it is far otherwise with regard to the region in question, which, almost ever since it has been known to Europeans, has been a never-failing source of botanical novelty to green-houses and conservatories: and in proportion to the multiplicity of subjects is the difficulty of selecting, consistently with brevity, what is most useful and interesting. "All that I had pictured to myself," exclaims Mr. Burchell, one of the most enlightened of modern travellers, "respecting the riches of the Cape in botany, was far surpassed by what I saw in one day's walk. At every step a different plant appeared; and it is not an exaggerated description of the country, if it should be compared to a botanic garden, neglected and left to grow in a state of nature; so great was the variety everywhere to be met with. As I walked along," he continues, "in the midst of the variety and profusion, I could not for some time divest myself of feelings of regret, that at every step my foot crushed some beautiful plant; for it is not easy, during one's first rambles in this country, to lay aside a kind of respect with which it is customary in Europe to treat the Proteas, the Ericas, the Pelargoniums, the Chironias, the Royenas, &c. To give some idea of the botanical riches of the country, I need only state, that in the short distance of one English mile, though the most favourable season had passed, and many of the bulbous and herbaceous plants had disappeared under the influence of the drought, I collected in four hours and a half, 105 distinct species; and I believe that more than double that number may, by searching at different times, be found on the same ground."

837

Cape Heaths.

Nothing, perhaps, is calculated so much to strike the attention of a stranger, as the great extent of certain groups, and the vast number of different kinds included in them. Among them may especially be enumerated the Heaths (*fig.* 837.), for which the Cape has long been celebrated, and the beauty and delicacy of which are familiar to all of us from the great number cultivated (no less than 500* species and varieties) in the green-houses of our gardens. Yet in the colony, notwithstanding their elegance and beauty, so little do they strike the attention of the people, that they have not even a name; but when spoken of, are indiscriminately called bosjes (bushes). It does not appear, however, that the range of the Heaths is very extensive; for, on coming to the Karroo Pass, Mr. Burchell observes, "four of the strongest and most characteristic features of Cape botany, the Ericæ, the Diosmæ, the Proteaceous and Restiaceous tribes, entirely disappear; nor did I meet again with any of them till two years afterwards, when I re-entered the same botanical parallel at Zwartwater Poort, lying in the same parallel of latitude as Karroo Pass, but at 6° long. more to the eastward. The Heath was Erica Plukenetii. This lovely tribe had attended me the whole way from Cape Town, till now that I was arrived at the very door of the desert, beyond which the scorching heat rendered it impossible for them to exist; and it seemed as if this handsome species had accompanied me till the last moment, to take a long farewell in the name of the whole family." It is probable, therefore, that in Europe, the single species, the common Heath, or Ling (*Erica vulgaris* Lin.), extending as it does from Lapland to Italy in the plains, and on the mountains even to Morocco, occupies a greater extent of surface

"empurpled with the Heather's dye,"

than the 300 species which are enumerated as natives of the Cape of Good Hope. "Amidst all these beauties," says Captain Carmichael, "the Cape Heaths stand confessedly unrivalled. Nature has not restricted these elegant shrubs to one particular soil or situation. You meet with them in the marshes, and on the banks of rivers; in the richest soil, and on the bare mural cliffs; on the acclivities of the hills and the tops of the highest mountains. The form of their flowers is as varied as their colours; some are cup-shaped, some globular, some exhibit the figure of a cone, others that of a cylinder contracted at the mouth, or swelled out like a trumpet; some are smooth and glossy; others covered with down, or with a mucilage. The predominant colour is red; but you meet with white, green, yellow, and purple; of every colour, in short, but blue; a fact which deserves notice, when we consider the almost unlimited extent of the genus."

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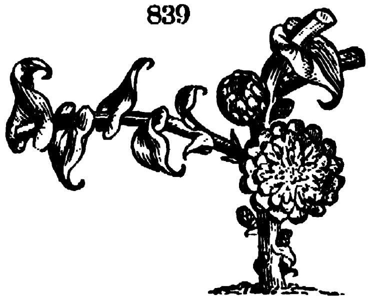
* Loudon's *Hortus Britannicus.*

The Proteaceæ (*fig.* 838.) constitute an equally striking feature at the Cape; a tribe of plants almost wholly confined to the southern hemisphere. Nearly 200 species are known to be natives of Southern Africa; and of these, many are conspicuous for the extreme beauty and magnitude of their flowers, which excite the admiration of the most careless observer. Those who have visited Cape Town cannot fail to be acquainted with the Silver Tree, no less remarkable for the delicate silky covering of its foliage than for its large and showy blossoms; yet this is the common fuel of the place. Near Cape Town is a village called Witteboom, a name which with great propriety it has received, on account of the numerous plantations of large Witteboom, or Silver Tree, which grow about it. The native station of this handsome tree is the sloping ground at the foot of the eastern side of Table Mountain; and at present very large groves occupy the northern side, next the town. That this place, Mr. Burchell observes, should be the only part in all the colony where it grows wild, can be no object of wonder to any person who has the least knowledge of the character of Cape botany; since the natural places of growth of a multitude of other plants are circumscribed by limits equally contracted. "Next to the Heaths," says a late intelligent naturalist, "for variety and beauty stand the Proteas. In the stem, the leaves, the flower, and the fruit of these plants, there appears such diversity, as if nature had created them with a view to setting botanical arrangement at defiance; and the name imposed on the genus would seem to indicate that she has been in some degree successful. The Silver tree (*Protea argentea*) grows to the height of a middling-sized tree; while the Protea repens (*fig.* 839.), at the other extreme, creeps along the sand, and bears on its slender stem, a flower, which, from its size and colour, might at first sight be mistaken for an orange. The intermediate space is occupied by upwards of sixty species, which display an extraordinary diversity in form and habit. Some have small blossoms that attract the attention of no one except the botanist; others, at the elevation of a few inches, bear a flower that exceeds in size the crown of a hat, and strikes with wonder the most indifferent passenger. In the inflorescence of some species, particularly the Protea mellifera (*fig.* 840.), a vast quantity of honey is secreted, which attracts swarms of bees, beetles, and other insects, whose variegated colours and active movements heighten the interest of the scene; nor is this interest at all diminished, when the Cape Humming-bird (*Certhia chalybea*) joins the animated group, and, perching on the border of the chalice, darts its tubular tongue into the bottom of the flower, or snaps at the insects as they buzz around.

838

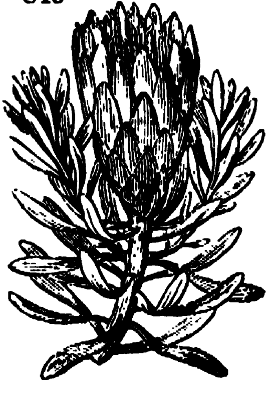
Proteaceæ

839



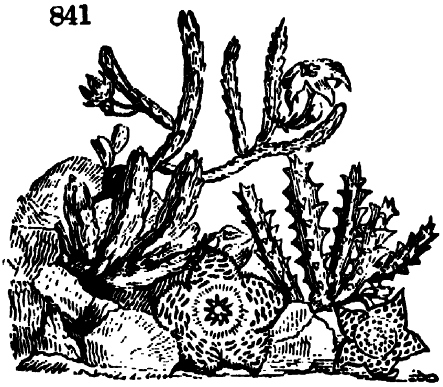
Protea Repens.

840



Protea Mellifera.

841



Stapelias.

The colony owes some gratitude to the person who introduced the Pine to an acquaintance with the Silver tree. The contrast is not stronger between a black man and a white than between these trees: yet, like them, they possess several striking points of resemblance. The seeds in both, for instance, are contained in cones; when once cut down, neither of them revives in shoots from the trunk; the annual branches in both spring out in a circle round the stem; and in both, the branches, as well as the minute twigs, are covered with leaves. But the leaves of the Pine are mere lines without breadth, smooth, rigid, and of a dark green colour; whereas those of the Silver tree are lance-shaped, soft, and clothed with a white shag, more delicate than silk, which, blending its hue with the white parenchyma of the leaf, gives it the appearance of sky-blue satin. The effect of a strong wind on the mingled foliage of these trees is peculiarly pleasing.

The Silver tree is diœcious. The fertile flowers are separated by the scale of the cone. After the germ has been fecundated, the scales begin to grow, and at length overtop the petals, gathering them in a bunch, entirely concealed from view. When the fruit is become ripe, the sun begins to act on the scales; they curl out at the top and contract at the base, gradually squeezing out the nut, until it arrives at the aperture, when, spreading out the white hairy border of the corolla, it assumes a feathery appearance, like the seed-down of a syngenesious plant. In this state it remains, ready to be wafted by the first gale that blows: but to ensure the ultimate object of nature, the transportation of the seed, the long capillary style and its round stigma remain attached to it, and, the latter being too large to slip through the narrow throat of the corolla, the seed is thus suspended by the style, and descends to the ground somewhat in the manner of an aeronaut in his parachute.

More numerous than the Proteaceæ, though of humbler growth, and bearing smaller but not less brilliant flowers, are the Fig Marigolds (*Mesembryanthemum*), a genus almost peculiar to Southern Africa. The principal species of this plant, of which upwards of 300 have been enumerated, seem admirably adapted for fixing the loose shifting sand, with which a great part of the country is covered, spreading over the ground from a central point; a single specimen shades a great extent of surface, and affords a singular relief to the eye, fatigued by the powerful refraction of light. In its thick fleshy foliage, it possesses a magazine of juices, which enables it to bear, without shrinking, a long privation of moisture, at the same time that it gives shelter to the nascent shoots of other plants which spring up in its bosom. The mucilaginous capsules of the Hottentot Fig (*M. edule*) are the chief material of an agreeable preserve. Nature has made a beautiful provision for the increase of some of the annual kinds of Fig Marigold, in the property of the capsule, which, contrary to most fruits of the kind, is firmly closed in a period of drought and only opens and discharges the seed in wet weather, when the parched and sandy deserts which this plant inhabits are moistened with the prolific rain. Even after having been long gathered, the capsule retains the same property, being shut in a dry atmosphere, and readily expanding wide in water, and very rapidly in warm water. Mesembryanthemum coriarium of Burchell is employed by the Hottentots for tanning leather.

The Stapeliæ, or Carrion flowers (*fig.* 841.), are a numerous and highly curious genus, with square, succulent, leafless stems and flowers resembling Star-fish. They derive their latter appellation from their abominable odour, which so much resembles that of putrid meat, that insects are deceived by it, and even in hot-houses (where 110 species are now cultivated), they deposit upon them their eggs, which are hatched by the heat of the sun, when the larvæ perish for want of animal food. This is not the only service which these unsavoury plants render. Spielmann brought home a species, well known to the Hottentots by the name of Gnuap (*Stapelia pilifera*): it has an insipid, yet cool and watery taste, and is used by them for the purpose of quenching thirst; for which purpose it would seem Providence has designed it, by placing it only in hot and arid tracts of country. "In passing through the Karroo, I expected to have seen abundance of Stapelias, but scarcely half a dozen appeared. No part of the colony seems to be so rich in them as the dry sandy regions of the western coast, where they cover a tract of many degrees of latitude in extent, disappearing to the eastward, though their associates, Aloes, Mesembryanthemum, and Aizoon, were now and then much farther north."

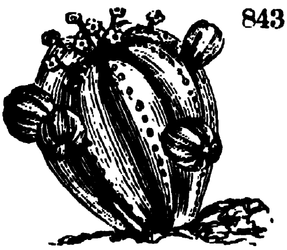
Aloes certainly are far more numerous than Stapelias, and more remarkable for their varied mode of growth, and the curious form of their succulent leaves, than for the elegance of their flowers, though many of them, especially the larger kinds, are not destitute of beauty. Mr. Burchell observed in his excursions, when halting for the night in a rocky situation, near a small river, the fine scarlet blossoms of a new kind of Aloe (*A. claviflora* Burch.) decorating the barren rocks, and giving a certain gay and cultivated look to a spot, which, without it, would have appeared a rude neglected waste.

As it is not possible to preserve the Aloe tribe (*fig.* 842.) for the herbarium, and as they have not been studied in their native deserts, all that we know of them, or nearly so, is from

842

Group of Aloes.

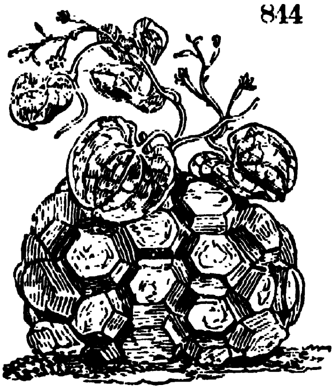
843



Euphorbia Meloformis.

the species cultivated in green-houses, and these amount to 170 different kinds. Among them, the Aloe dichotoma is not the least remarkable; the Cokenboom, or the Quiver tree of the Hottentots, so called, because natives of the western coast make their quivers of its wood. Aloe spicata is said to be extensively cultivated at the Cape of Good Hope, to obtain from it Hepatic Aloes, like that of the Barbadoes Aloe (*A. socotrina*). The place of the Cactuses (a genus wholly unknown to the Old World) seems to be occupied by a peculiar and very extensive group of Euphorbias, which have the fantastic and varied forms of that singular tribe, and occupy the very same arid and rocky situations. Many of them rise to a vast height, with their highly succulent and often prickly and angled stems and branches not unlike candelabra. The acrid milky juice in them is highly elaborated; and while, on the one hand, men and cattle suffer from the great abundance of these plants, on the other hand, they afford a most powerful poison (especially E. mammillaris), by which the wounds inflicted by arrows and assagays are rendered most deadly. Vaillant mentions the great sufferings he underwent, by treading with his bare feet upon the thorny Euphorbia meloformis (*fig.* 843.). E. tuberosus, and many other species, are reported to occasion the strangury at a certain time of the year to cattle browsing upon them; and this statement seemed to be confirmed by Mr. Burchell's oxen being taken ill of that disorder in spots where those plants abounded. The Tamus elephantopus (*fig.* 844.) (*Testudinaria* Salisb. and Burch.) is a very remarkable plant, now well known in the green-houses of the curious. The mountains of Graaf-Reynet, says the latter author, are the native soil of this extraordinary production, which is called Hottentot's Brood (*Hottentot's Bread*). Its bulb stands entirely above ground, and grows to an enormous size, frequently three feet in height and diameter. It is closely studded with angular ligneous protuberances, which give it some resemblance to the shell of a tortoise. The inside is a fleshy substance, like a turnip in consistence and colour. From the top rise several annual twining stems. The Hottentots eat the inner substance, which is considered not unwholesome, baked on the embers. It will easily be believed that this food may not be very unlike the East India Yam, since the plant belongs to a very closely allied genus. Other remarkable genera, or tribes, inhabiting the Cape, are the Irideæ, whose gaudy flowers, for a short season, give beauty and life, as it were, to the sandy deserts, after which their light and scaly or tunicated bulbs are dispersed far and wide by the winds; the interesting terrestrial Orchideæ (*fig.* 845.), whose large and brilliant blossoms are scarcely exceeded by those of the parasitic species of Tropical America; the Restiaceæ, a family which the Cape shares in common with New Holland, some individuals of which, especially Restia tectorum, afford excellent thatching for houses; numerous grasses; shrubby Boragineæ, with vivid blossoms, particularly belonging to the genus Echium; numerous species of Celastrus, of Lobeliaceæ, of Phylica, Brunia, Thesium, and

844



Tamus Elephantopus.

845

Orchideæ.

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Strelitzia.

Chironia; the splendid Strelitzia (*fig.* 846.), so named by Mr. Aiton, in compliment to the queen of George III., "and which stands," says Sir J. E. Smith, "on the sure basis of botanical knowledge and zeal, to which I can bear an ample and very disinterested testimony;"—numerous plants of the Natural Order Rutaceæ, to which belongs the Diosma, the powerfully scented Buku* of the Hottentots (who take delight in mixing it with grease and smearing their bodies with it), and now of our Pharmacopœias; Apocyneæ (including Stapelias), several Umbelliferæ, some of them very remarkable, among which is the Tondelblad, or tinder-plant (*Hermas depauperata*), whose down supplies the natives with tinder, and which may be removed from the leaves in an entire mass (so closely are the fibres interwoven), and stretched out so as to be modelled into little caps, stockings, &c., to which the impression of the veining of the leaves gives a beautiful appearance: numerous kinds of Rhus, Cluytia, Pharnaceum, Statice, Crassula, and other genera of the same family, Ornithogalum, Anthericum, Lachenalia, Asparagus, Juncus, among which we may mention the Juncus serratus:—"Many rivers," Mr. Burchell observes, "are choked up with the plant called Palmiet (*Juncus serratus*) by the colonists, and from which one river, in particular, derives its name. Some idea of the appearance of this plant may be gained by imagining a vast number of Ananas, or Pine-apple plants, without fruit, so thickly crowded together as to cover the sides, and even the middle, of the stream, standing seldom higher than three or four feet above the surface, but generally under water, whenever the river swells above its ordinary height. The stems which support them are of the thickness of a man's arm; black, and of a very tough and spongy substance; generally simple, though not rarely divided into one or two branches. They rise up from the bottom, not often in an upright posture, but inclined by the force of the current. They have very much the growth of Dragon-trees (*Dracæna*), or of some palms, from which latter resemblance they have obtained their name:—Cliffortia, a curious genus in Rosaceæ; numerous Salviæ, several species of Scrophularinæ and Selagineæ; a remarkable genus of Cruciferæ, Heliophila, many of whose species have blue flowers, an unusual colour in that natural order; a vast quantity of Geraniaceæ, particularly of the genus Pelargonium, which are almost peculiar to the Cape; Hermannia, and some Malvaceæ. Polygalæ abound; as do Leguminosæ, among which are several confined to that country, and highly ornamental, as Lebeckia, Rafnia, Liparia, Hypocalyptus, Sarcophyllum, Aspalathus, Hallia, &c. Indigoferæ prevail very much, and the Acacias, which present some remarkable species. A. vera and A. capensis are often loaded with large lumps of very good and clear gum, and they have so great a resemblance to the true Acacia of the ancients, or the tree which yields the gum-arabic, as to have been considered the same species. Wherever these trees are wounded, the gum exudes; and it is probable that a large crop might thus be annually obtained without destroying them. If a computation could be made of the quantity that might be obtained from those trees, only, which skirt the river Gariep and its branches, amounting to a line of wood (reckoning both sides) of more than 2000 miles, it might be worth while to teach and encourage the natives to collect it, which they would readily do, if they knew that tobacco could always be had in exchange. Indeed, the supply thus obtained would be more than equal to the whole consumption of Britain. The Acacia capensis (*fig.* 847.) (*Doornboom*), or Thorn tree, Wittedoorn (*Whitethorn*), and Karrodoorn (*Karrothorn*) has straight white thorns, two to four inches long, and is certainly the most abundant and widely disseminated tree of the extra-tropical parts of Southern Africa. Acacia Giraffæ abounds in the Bichuana country, and was first noticed by Mr. Burchell, who saw it there for the first time, and describes it as a remarkable species, having thick brown thorns and an oval pod of a solid mealy substance within, and which never opens as those of other Acacias:

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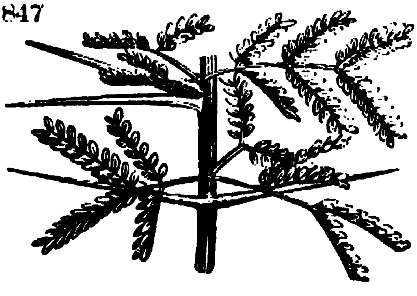

Acacia Capensis.

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[*] "A Hottentot being severely wounded by the bursting of a gun, his companions expressed so much faith in the powers of Bockoe-azyu (*Bookoo vinegar*) as a wash to cleanse and heal the wound, that I allowed it to be used. Our small stock of this liquid soon failing, we had recourse to an infusion of the Diosma leaves in brandy, with which the wound was washed night and morning for two or three weeks, the effect of this application being very satisfactory. The Bockoe or Bucku-azyu is made by simply putting the leaves of Diosma serratifolia, or some other species of the same genus, into a bottle of cold vinegar, and leaving them to steep; the vinegar being esteemed in proportion to the time during which the infusion has been made, and sometimes turning to mucilage."

in this resembling only the A. atomiphylla. The head of it is thick and spreading, and of a highly peculiar form, which distinguishes it at a great distance. It is called Kameel-doorn (*Camel-thorn*), because the camelopard browses chiefly on it; and is one of the largest trees in these regions. Its wood is excessively hard and heavy, of a dark or reddish brown colour, and is used by the Bichuanas for their smaller domestic utensils, as spoons, knife-handles, &c. Though other species resemble the A. Giraffæ in form and growth, yet the pod alone is sufficient to distinguish it easily from all others. A. detinens is so called by Mr. Burchell from the following circumstance. Describing the country about Zand Valley (Sand Valley) in lat. 29° 48′, he says:—"The largest shrubs were nearly five feet high, a plant quite new to me, but well known to the Klaarwater people by the name of Haakedoorn (*Hookthorn*). I was preparing to cut some specimens, when, though proceeding with the utmost caution, a small twig caught hold of one sleeve. While trying to disengage myself with the other hand, both arms were seized by these rapacious thorns, and the more I tried to extricate myself, the more entangled I became; till, at last, it seized hold of my hat also, and convinced me that there was no possibility of getting free but by main force, and at the expense of tearing all my clothes. I therefore called for help, and two of my men came and released me by cutting off the troublesome branches. In revenge for this ill-treatment, I determined to give to the tree a name, which should serve to caution future travellers against venturing within its clutches." The roots of A. elephantinum constitute a favourite food of the elephant. The Compositæ are extremely widely dispersed; many being woody kinds, especially of Aster, while the number and variety of the Gnaphaliums and Xeranthemums (*fig.* 848.) are quite astonishing: many of them retain the form and colour of the flower long after they have been gathered, and hence derive their name of Everlastings. A great variety of timber is found along the tract of coast that stretches to Plettenberg's Bay, a distance of nearly 200 miles; but the indolence or apathy of the Dutch rendered it of little use to the colonists. The only kind that has been introduced into general use is the Geel Hout (*Taxus elongata*), which is employed in house-building. For furniture, they occasionally use Stink Hout (*Laurus teterrima*), though the execrable odour it diffuses for some time after it has been worked, forms a well-grounded objection to its general adoption. It possesses the colour, hardness, and durability of the heart of oak.

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Gnaphaliums and Xeranthemums.

The vegetable productions of the country surrounding Algoa Bay are, in many respects, different from those of the vicinity of Cape Town. The Heaths and Proteas almost disappear, and in their room are numerous species of Aloe and Euphorbia. These, for the most part, garnish the rocks and precipices, the Aloe perfoliata alone occupies the plains, and, with its superb scarlet spikes, resembles, at a distance, skirmishing parties of British soldiers. A singular species of Euphorbia (*E. Caput Medusæ?*) grows also in the plains among the grass, where it appears as a round ball, without stem or leaves, and bears a striking resemblance in shape to the common Echinus. In dry weather the cattle eat it for the sake of its juice. Many useful plants grow here: the stem of Zamia cycadifolia, when stripped of its leaves, resembles a large Pine Apple. It is called the Hottentot Bread Fruit. These people bury it for some months in the ground, then pound it, and extract a quantity of farinaceous matter of the nature of sago. With infinite labour they dig the root of a species of Antholyza, which lodges at the depth of a foot or more in the hardest gravelly soil. To accomplish this, they are under the necessity of using an iron crow-bar, and the produce of half an hour's toil, which they call Untjie, does not exceed the bulk of a chestnut. Various other bulbs of the classes Hexandria and Triandria are esculent; but the long period of time requisite for their full developement will for ever prevent their cultivation as an article of food. The flowering spikes of the Aponogeton distachyon, known by the name of Water Untjie, are in high repute as a pickle. The Arctopus echinatus has recently acquired a considerable share of reputation as an antisyphilitic. It was tried by some British medical men, whose report was favourable. The discovery of its virtues is due to the Malays, who have long used it. The root bears some resemblance to that of the parsnep, and is the only part employed, being boiled in water, and the decoction administered to the extent of a quart daily, operating without any perceptible effect on the constitution. The Candleberry Myrtle (*Myrica quercifolia*) grows along the coast, on dry sandy plains, exposed to the sea air, where hardly any other plant will vegetate. The wax is in the form of a rough crust, investing the berries, and is extracted by boiling them in water, straining the decoction, and suffering it to cool. It is of a greenish colour, and possesses the hardness, without the tenacity, of bees'-wax. When made into candles, it gives a very fine light.

Fungi, as well as Lichens and Mosses, are so very rarely to be met with in the interior of Southern Africa, that, of the Fungi, the first which Mr. Burchell saw on his journey was at Klaarwater, after travelling for five months. Indeed, it could be hardly expected that the parched soil of the Cape would suit the growth of the Cryptogamiæ, which mostly delight in moisture.

It is well known that Table Mountain is an object of attraction to every one who has visited the Cape: its flat top, called the Table Land, is about two miles in length from east to west, and of various breadths, but nowhere exceeding a mile. The height is estimated at 3500 feet above the level of the sea. It is a common saying among the inhabitants of Cape Town, that when the Devil spreads his tablecloth on the mountain, you may look for a strong south-east wind. In the whole system of meteorology, there is not a more infallible prognostic. The Devil's tablecloth is a thin sheet of white vapour, which is seen rushing over the edge of the precipice, while the sky all around is clear and unclouded. The rapidity of its descent resembles that of water pouring over the face of a rock. The air, at the same time, begins to be agitated in the valley; and in less than half an hour, the whole town is involved in dust and darkness. Instantly the streets are deserted, every window and door is shut up, and Cape Town is as still as if it were visited by the plague. Sometimes, instead of a sheet of vapour, an immense cloud envelopes the mountain, and, stretching out on all sides, like a magnificent canopy, shades the town and the adjacent country from the sun. The inferior boundary of this cloud is regulated, probably, by various circumstances; among others, by the strength of the wind and the temperature of the air in the Table Valley. The influence of the latter is to be inferred from the fact, that though the cloud never descends farther than half-way into the hot parched amphitheatre of Cape Town, it may be observed on the side of Camp's Bay, rolling down in immense volumes to the very sea, over which it sometimes stretches farther than the eye can follow it. Nothing can be more singular than the appearance of this cloud. It is continually rushing down to a certain point on the side of the mountain, and there vanishing. Fleeces are seen, from time to time, torn from its skirts by the strength of the wind, floating and whirling, as it were, in a vortex over the town, and then gradually dissolving away. But the main body remains, as if it were nailed to the mountain, and bids defiance to the utmost efforts of the gale. There is a constant verdure maintained on this mountain by the moisture deposited from the atmosphere, and it is no wonder that it is frequented by botanists. M. Ecklon gives the following account of his ascent, in a work very little known in this country, namely, the Botanische Zeitung, for July, 1827, published at Ratisbon; and with this we shall conclude our already too much extended account of the vegetation of this celebrated promontory:—

"Numerous violent showers, accompanied with hail, had, almost daily, for four long weeks, frustrated every attempt of ours to undertake a botanical tour, in which we hoped to examine the vegetation of Table Mountain, during the winter season. The top was constantly covered with clouds, which rendered the ascent impossible: but as the unusual cold of this year gave reason to expect that ice would be found on the summit, I was the more curious to see the effect which it would produce on vegetation; and the occurrence of two fine wintry days enabled us to start. My friend Heil, the companion of all my wanderings, accompanied me on this occasion. It was a beautiful day, scarcely a cloud dimming the clear blue sky. Our ascent lay among the gardens at the foot of the mountain, where the fresh verdure, interspersed with the many-coloured blossoms of Oxalis and Hypoxis, that were called forth by the rain, ornamented the lower region. By the garden walls flowered the shrubs Muralta, Heisteria, Senecio rosmarinifolius, Othonna abrotanifolia, Nottea (*Selago*) corymbosa, Cluytia pulchella, &c. The water of the great stream from the Table Mountain rolled down with great violence. The road ceases at the water-mill above the gardens, and we ascended briskly, finding Erica baccans, Phylica buxifolia with seed, Achyranthes aspera, Mora grandiflora, and Cluytia polygonoides. A little bird (*Sylvia Pastor?*) enticed out by the beauty of the morning, whistled his grasshopper note in the miller's fig trees, and even here, amid all the riches of Flora, the lingering wish that we could but hear the nightingale of our native land, convinced us that there is nothing in this wide world capable of completely satisfying the wider wishes of the human heart. While ascending the rock still more toward the table-land, and between the pieces of rock, Penæa mucronata, Agathosma villosa, Blechnum australe, Pteris calomelanos, Cheilanthes capensis, C. hirta, C. pteroides, Asplenium furcatum, and at the great brook, Lomaria capensis and the Calla æthiopica (*fig.* 849.), now appeared with multitudes of blossoms. The beautiful day had attracted another party to the Table Mountain, as we perceived by a white flag waving on the summit. The vegetation at Plalle Klippe, owing to the late continued wet weather, had assumed quite an European aspect. I gathered Cyperus lanceus, Viola angustifolia, a Campanula, Cema turbinata, Stachys æthiopica, and Moræa collina. We were here in the region of the Silver tree, 1000 feet above the level of the sea. Leucadendron argenteum forms a small forest, at between 500 and 1000 feet from the Lowenberg, running along the northern side of the Devil's Berg and Table Moun-

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Calla æthiopica.

tain to Constantia. The lovely Protea mellifera, with red, reddish and white flowers, was here in full bloom, and a Thesium, by the great brittleness of its stem, was near letting me fall, as I clung to it to aid me in the ascent. Cassytha filiformis had almost covered a tree of Virgilia capensis, above 20 feet high. Platte Klippe consists of granite, striped with horizontal layers of gray greenstone; at some hundred feet higher up is the Witte Klippe, a large granite rock with a sloping top, over which the water runs, and as there was abundance of water at this season, it formed a most beautiful scene. The view was romantic: before us rose the tall steep mass of rock of the Table Mountain; not a cloud obscured the clear sky, and only in the greater distance to the north, a thick whitish fog intercepted the prospect of the whole chain of mountains. The highest point of the Hottentot's Holland Mountain, Stettenbosch, Drakenstein, and Tulbagh, which may be considered as 1000 feet higher than Table Mountain, were covered with snow. The onward road led through various shrubs, among which I observed Bubon galbanum, Royena glabra, R. hirsuta, Celastrus lucidus, Plectronia ventosa, Cassinia Maurocenia, Rhus angustifolium, R. tomentosum and lanceum, Polygala myrtifolia, an Aster, Martynia acris, Gnidia oppositifolia; while among these, in the sandy spots, Romulea fragrans, Lichtensteinia lævigata, and Bulbine recurva, began to shoot up and blossom. Numerous cows, one of which had a calf that suffered us to drive it away far more patiently than a German animal would have done, hurried from us, and they made their escape into flowering plants of Diosma oppositifolia, Hydrocotyle tomentosa, an Aster with blue flowers, Adenandra uniflora, Asclepias arborescens, Euphorbia tuberosa, and E. latifolia. In the third region, about 1700 feet above the sea, a beautiful waterfall invited us to rest and refresh ourselves. A thermometer which we had brought indicated 55° in the shade and 70° in the sun, at 10 A. M. Round the waterfall I saw Kiggelaria africana with fruit, Cunonia capensis out of flower, Hypocalyptus canescens, Todea africana, Eriocephalus racemosus, Myrica serrata, M. quercifolia, Berckheya ciliata, and Protea lepidocarpon. Proceeding onwards, and still ascending, we approached the right cleft, which leads to the summit, between steep rocky walls. But, to our great mortification, we found the entire flora of the place destroyed by a fire that had been kindled about two months ago. Nothing but burnt stumps remained of the lovely shrubs that had excited my admiration on a previous excursion, and long must it be ere their former beauty can return. Such fires are kindled and kept up during calm weather by the proprietors of Silver tree plantations, to prevent such a circumstance accidentally occurring during the prevalence of the before-mentioned strong south-east winds, which not only might destroy all the trees, but prove highly dangerous to the town. Only an Oxalis variegata appeared between the consumed stumps, and behind a piece of rock we observed a shrub of Brunia, with all its leaves and most of its blossoms burnt off. Pieces of broken glass and old shoes, which lay scattered everywhere on the ground, showed the difficulty of ascending the Table Mountain. The fire had not, however, reached the great defile, where some African plants appeared; but nature, in general, seemed as dead, and only Arnica pilosselloides, an Arctotis, and some leaves appeared, where I had before found Agapanthus minor, Amaryllis sarniensis, and Atragene angustifolia. To the eye of a botanist, the scorched ground and consumed vegetation looked like Sodom and Gomorrah. Gnaphalium capitatum and Arnica lanata now appeared in separate spots, and broken branches covered with Parmelia and Usnea lay scattered at our feet, wafted by the wind from the ravines of the rock. We were now about 2500 feet above the level of the sea, and here the fire had stopped. At this elevation we found Aster cymbalarifolius, a Buchnera, and Solanum nigrum among the crevices of the rocks. The view around us was truly majestic; added to which, the drops of rain, driven by the wind from the lofty rocks and steep cliffs, reflected back the clear sunbeams, and presented all the colours of the rainbow. A sudden whirlwind lifted up a broken bush of Erica that lay far beneath us, and carried it in a moment high over the Table Mountains. We had accomplished two-thirds of the ascent at 11 A. M., and arrived at a small cavern in the rock, where there is always some water, that proves in the warm season a great refreshment to the weary traveller. There Erica purpurea, and some Restiones, were still in bloom. The defile now became narrower, and the pieces of rock over which we must clamber increased in size: the cold was also more sensibly felt at our fingers' ends, the thermometer standing at 43°. Several mosses grew on the moist sides of the rock. We sought the sunshine now as gladly as in this situation we generally court the shade; but its beams gave no more warmth than the March sun does in Germany. An Anthyllis, many species of Restio, and the Osteospermum ilicifolium, an inhabitant of the plain of Table Mountain, here greeted our eyes; and the latter first manifested its presence by the strong smell of its leaves. Many specimens of the Klipp dachren (*Hyrax capensis*) peeped out from among the pieces of rock, but escaped immediately on seeing us; still their curiosity is so great that they soon reappear, and a person, by standing quietly a little while, may easily shoot them. Their flesh is good eating, and has the flavour of hare. Not a bird could be either seen or heard: but the frogs and grasshoppers made plenty of noise. On the sides of the rocky projections are Chinese characters, and many names, which are designed to perpetuate the memory of the heroes who had accomplished this ascent before us, gave assurance that we had attained the highest point, and at 11¾ A. M. we had accordingly issued from the defile and gained the plain. The party whose flag we had seen from below was preparing to descend. The horizon to the south-east was covered with thick clouds, which intercepted the otherwise beautiful prospect over the semi-insular Cape, and warned us to prepare for our return. No delay was possible, as the mountain would shortly be covered with clouds. Indeed, every object presented a most wintry appearance. Erica physodes and some plants of Aster linearis exhibited a few blossoms; while others, as Drosera cuneifolia and Villarsia ovata, were beginning to throw out young shoots. The wind now commenced blowing violently from the north-west, and black clouds covered the Kasteelsberg before us, so that we hastened to regain the defile, lest, being enwrapped in clouds, we should lose our way and be precipitated from the steep sides of the rock; as it is common for the dense mist to hide every object beyond two feet before us. Besides the defile by which we ascended, there is another, that goes down on the western side over Van Kamp's Bay; but the steepness of the rocks about the middle do not allow it to be used. About eighty feet from the summit, in this latter defile, is the only spring that is on the top of the Table Mountain, and which never fails in the driest weather. Here we found Erica physodes abundantly in full flower; also E. purpurea, Staavia glutinosa, Protea cynaroides, and P. speciosa, both in seed, Othonna abrotanifolia, Agathosma imbricata, Gnaphalium cephalophorum, Erica Lebana in seed, Phylica ericoides, Gnidia scabra, and a red lichen on the pieces of rock. There were very few plants in blossom in this generally rich defile. The thermometer indicated 43° in the shade and 55° in the sun at 1 P. M.: at which hour it was 66° in the shade at Cape Town. Being very hungry, we sat down in the shade to take our dinners, encamping beside the stream, where our tablecloth was spread of the young verdure of Restiones, Penæa mucronata, Lobelia pinifolia, Hermas capitata, H. depauperata, Clutia tabularis, Osteospermum ilicifolium, Senecio purpurea, and Aster filiformis. Van Kamp's Bay, below us, was covered with white clouds as far as the eye could reach, extending, like a mass of snow, over the Southern Ocean. The wind blew strong through the tops of the surrounding rocks, and lifted the clouds still higher and nearer towards us, though a clear blue sky still appeared immediately over-head. After our meal we again sought for mosses on the rocks, and found, besides an Erica, a Campanula, and Cliffortia, but not in blossom. Cunonia capensis, likewise past flower, grew in the fissures of the rock, and Schizæa pectinata with dried fructification. Above us, on the high rock that surrounded us, we noticed a beautiful shrub, that seemed to be covered with red flowers: my friend determined to obtain it, though I assured him, from telescopic observation, that the apparent red blossoms were only the red fruit of Leucadendron pyramidale, and such it proved to be, though he also brought down fine flowering specimens of Penæa squamosa and several Ericæ. At about half-past 2 P. M. we returned to the northern defile, and there began our descent, going back by the way we came. My friend had the misfortune to sprain his foot while returning, which rendered our walk slow and difficult, but, happily, no disagreeable consequence ensued; and, in spite of this delay, we regained Cape Town by moonlight, at about 7 P. M."

Subsect. 3.—*Zoology.*

Of the zoological peculiarities of Southern Africa, we have already spoken. In no region of the globe does there appear so great a number of quadrupeds, and these, too, of the largest dimensions. The limit of this zoological region is very uncertain; inasmuch as of all this part of the African peninsula, we know little beyond the Gariep to the north-west; while the borders of the Great Fish River (forming the boundaries of the colony on the south-eastern coast), are the farthest limits, in this direction, hitherto reached by scientific travellers. Mr. Burchell, indeed, has penetrated the interior deserts to lat. 26° south, and his researches lead us to believe that the animals of central equinoctial Africa do not materially differ from those of the Great Karroos which bound the territories of the Cape Colony. The chief seat, therefore, of the zoology of Southern Africa must be sought for in that immense line of forests which border the coast, and have been traced from Bosjesveld to the bounds of the Great Fish River: these extend, in all probability, to an immeasurable distance farther, and form a belt of eternal verdure, between the arid deserts of the interior and the more fertile borders of the coast.

The surprising number and variety of quadrupeds which naturalists have detected in this region will be better understood by the following list; equally interesting both to the scientific zoologist and to the future traveller:—

Cercocebus pygerythræus. Red-vented Monkey.
Cyanocephalus porcarius. Pig-faced Baboon.
Pteropus Leachii *Sm.* Leach's Bat.
Rhinolophus Geoffroyii *Sm.* Geoffroy's Bat.
Nycteris capensi *Sm.* Cape Nycteris.
Nycteris affinis *Sm.* Allied Bat.
Vespertilio capensis *Sm.* Cape Bat.
Sorex capensis. Cape Shrew.
Macroscelides Smithii *Nob.* Smith's Shrew.
Chrysochloris capensis. Cape Mole.
Chrysochloris Hottentotus *Sm.* Hottentot Mole.
Ratellus Ratel. Ratel Glutton.
Putorius Zorella. The Zorello.
Lutra inunguis. Clawless Otter.
Canis aureus. Jackal.
Canis mesomalas. Cape Jackal.
Hyæna venatica. Hunting Hyena.
Mangusta cafra. Caffrarian Ichneumon.
Mangusta urinatrix *Sm.* Aquatic Ichneumon.
Mangusta Levaillantii. Levaillant's Ichneumon.
Ryzæna capensis *Ill.* Surekate.
Proteles Lalandii. Cape Proteles.
Hyæna crocata. Spotted Hyæna.
Felis leo. The Black maned Lion.
Felis Serval. The Serval.
Felis capensis. Cape Cat.
Felis nigricans. Black-footed Cat.
Otaria Peronii. Peron's Seal.
Phocæna Hornèii *Sm.* Cape Seal.
Myoxus avellanarius. African Dormouse.
Myoxus murinus. Murine Dormouse.
Myoxus africanus. African Dormouse.
Mus Donovani. Donovan's Mouse.
Bathyergus maritimus. Coast Bathyergus.
Bathyergus capensis. Cape Bathyergus.
Bathyergus Ludwigii *Sm.* Ludwig's Bathyergus.
Pedetes capensis. Cape Pedetes.
Dendromus dorsalis *Sm.* Dorsal-striped Tree lover.

Sciurus ginginianus. Gingi Squirrel.
Sciurus oculatus *Sm.* White-spot Squirrel.
Lepus africanus. Cape Hare.
Lepus rufinucha *Sm.* Rufous-naped Hare.
Lepus saxatilis. Rock Hare.
Orycteropus capensis. Cape Anteater.
Rhinoceros africanus. African Rhinoceros.
Rhinoceros simus. Burchell's Rhinoceros.
Hyrax capensis. Cape Hyrax.
Equus quagga. Couagga Zebra.
Equus zebra. Common Zebra.
Equus montanus. Mountain Zebra.

Antelopes.
Aigocerus leucophæa. Blue Antelope.
Aigocerus equina. Roan Antelope.
Aigocerus barbata. Bearded Antelope.
Oryx Caffra. Caffrarian Oryx.
Gasella pygarga. White-faced Gazel.
Gasella euchore. Springer Gazel.
Antilope melampus. The Pallah.
Redunca eleotragus. Reitbock Antelope.
Redunca isabellina. Cream-coloured Antelope.
Redunca villosa. Rie Rhiebock.
Redunca scoparia. Oorebi Antelope.
Tragulus oreotragus. Klipspringer.
Tragulus rupestris. Steinbock.
Tragulus rufescens. Vlackte Steinbock.
Tragulus grisea. Grysbock.
Tragulus pallida. Bleekbock.
Cephalophus platous. Broad-eared Antelope.
Cephalophus Burchellii. Burchell's Antelope.
Cephalophus cærulea. Slate-coloured Antelope.
Cephalophus purpusilla. Kleenebock.
Tragelaphus sylvatica. Boschbock.
Damalis Caama. The Caama.
Damalis lunata. Lunated Sassaby.
Damalis Oreas. Impoofo.
Damalis Canna. Canna.
Damalis strepsiceros. Koodoo.
Catoblepas Gnu. Gnoo.
Catoblepas taurina. Kokoon.
Catoblepas gorgon. Brindled Gnoo.
Bos caffer. Cape Buffalo.

From this list we can only select a few for particular notice. The Antelopes are the most conspicuous tribe, and range over the vast karroos, or deserts, with astonishing swiftness. Some, however, inhabit only the forests, while others prefer the mountains.

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Spring-Bok.

The Spring-bok or Mountain Antelope (*fig.* 850.), called by Lichtenstein the Antilope pygarga (Trav. Af., 317. 340.), frequently go in troops of not less than 3000. They run for some time extremely quick; and then, if a bush or piece of rock crosses their path, they spring to the height of four or five feet, clearing at one leap ten or twelve feet of ground. They then stand still a few minutes, till the rest are passed; after which they all set off again, running with astonishing fleetness. The beautiful form of this animal, its elegant markings, and the incredible lightness and grace of its motions, render it extremely interesting.

The African Elephant (*fig.* 851.) is, at first sight, distinguished from the Asiatic species by its much larger ears, which descend towards the legs: they are, indeed, so large, that at the Cape they are said to be made into sledges to draw agricultural implements to and from the fields, and even to convey the sick. It is found from the Cape of Good Hope to Senegal; but whether it extends along the eastern coast is uncertain. The annexed figure was taken by Mr. Landseer, from a young and very docile specimen, living, in 1830, in the Garden of Plants. This species, although not yet tamed in its native country, has all the docility and wonderful sagacity of the Asiatic Elephant.

851

African Elephant.

852

Hunting Hyena.

The Hunting Hyena (*Hyæna venatica* Burch.) (*fig.* 852.) is a beautiful animal, first discovered by Mr. Burchell, and, from uniting the characters of the Hyenas and the Dogs, has been thought worthy of a subgeneric name. It is remarkable for hunting in regular packs: though in general a nocturnal animal, it frequently pursues its prey by day; and as it is well formed by nature for speed, none but the fleetest animals can escape. Sheep and oxen, therefore, are particularly exposed to its attacks; the latter are approached by stealth during their sleep, and frequently suffer by the loss of their tails.

To notice, however briefly, the remaining quadrupeds, would far exceed our limits. The diversity in the size and habits of the Antelopes exhibits every intermediate link from the smallest and the most delicate to the largest and strongest Buffalo; while the Lion, the true Jackal, and several species of Hyena, are well-known inhabitants of Southern Africa.

The ornithological subjects are numerous; but, on the whole, less beautiful than might be imagined. Flocks of Vultures of several species are everywhere seen in the deserts, where the remains of so many quadrupeds, killed either by beasts of prey or by the course of nature, require to be removed. The Eagles and Falcons are also numerous, and keep under subjection the smaller quadrupeds and birds; while the Snake-eater (***Gypogeranus serpentarius*** Ill.) (*fig.* 853.), peculiar to Southern Africa, roams over the sandy plains, carrying on a perpetual warfare with all sorts of reptiles. The Barn Owl and Great-horned Owl of the Cape are supposed to be of the same species as those of Europe. Among the lesser birds of prey are several true Shrikes: the Drongoes, called by the Dutch devil-birds, from their uniform black colour, assemble in the morning and evening, and hunt after insects, not unlike swallows: the Puff-backed Shrikes (*Malaconoti* Swains.), on the contrary, search for eggs and young birds in thick bushes; while the Caterpillar-catchers (*Ceblepyrinæ* Swains.) only frequent the loftiest trees, for the sake of the soft insects from which they derive their name.

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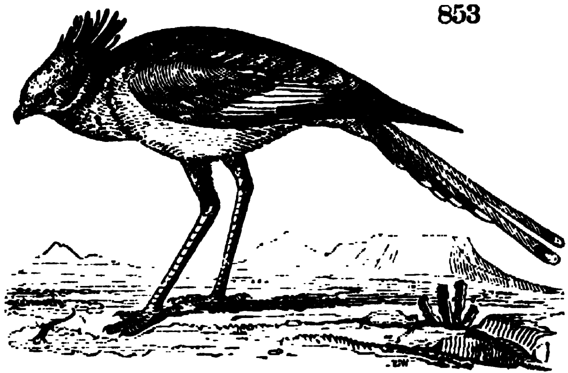

Snake-Eater.

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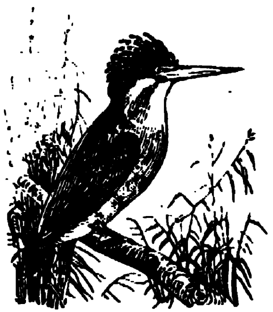

Crested Kingfisher.

In the perching order of birds, we find many of beautiful plumage, and others of wonder-ul instinct. The Crested Kingfisher (*Alcedo cristata*) (*fig.* 854.) is much smaller than the European species, but far surpasses it in the splendour of its colours: the head is adorned vith a full crest of narrow and arched feathers, alternately barred with black and brilliant lue: the under plumage is of a rich cinnamon, with the throat nearly white; the bill and egs bright crimson. The Cape Honeysucker (*Melliphaga cafer* Sw.) (*fig.* 855.) and the ape Coly (*Colius capensis* L.) (*fig.* 856.) are both small birds, of dull-coloured plumage, but rendered conspicuous for the great length of their tails: the first subsists chiefly upon the nectar of flowers: it is remarkable as the only genuine Honeysucker (*Melliphaginæ* Sw.) found in Africa; and it seems abundant at that extremity of Africa which is nearest to Australia, the chief metropolis of its tribe. The Cape Coly is less than a sparrow; of a delicate drab colour, and has all the four toes placed forward, nearly similar to the Swifts: the shortness of the wings very much impedes its flight. M. Le Vaillant says these are called, at the Cape, Mouse Birds, not only on account of their delicate and soft plumage, but from their creeping about the roots of trees like that quadruped. This and several other species found in Southern Africa appear to live entirely upon fruits: their nests are placed in clusters, and hey sleep in a most curious manner; each close to the other in the same bush, and suspend-d to the branches by one foot, with the head lowermost; a position which has not yet been etected in any other genus of birds. The Colies are generally very full of flesh, and are elicious eating.

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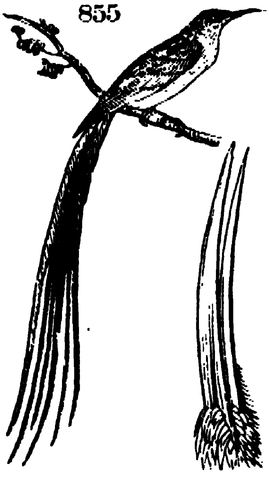

Cape Honey-Sucker.

856

Cape Coly.

The two most extraordinary birds in their respective instincts, are the Honey-Guide and e Republican.

The Honey-Guide (*Indicator Sparrmannii* Sw.) (*fig.* 857.) was first discovered and circumstantially described by the celebrated traveller Sparrmann. This bird is smaller than a thrush, gray-brown above and whitish beneath; and is principally found in the forests on the eastern coast towards Caffraria. It feeds chiefly on bees and their honey, and, as if unable always to procure the latter, it would seem to call in the assistance of man, in the following manner:—The morning and evening are the times of feeding: the note of the bird, well known to the African hunters, is then shrill; the latter answer the note from time to time till

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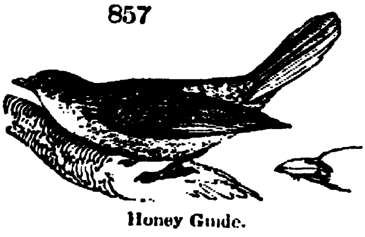

Honey Guide.

the bird is in sight: it then flies forward, by short flits, towards the spot where the hive is situated, and thus secures a portion of the spoil from its grateful allies. These birds are, of course, held in much esteem, almost amounting to veneration, by the Hottentots; and the killing of them, by Dr. Sparrmann, was much resented. Le Vaillant observes, that, on opening the stomach, he found nothing but wax and honey; the skin was itself so thick, as scarcely to be pierced with a pin: this latter fact we have ourselves ascertained from the dead bird. It is a peculiarly wise provision of Providence to fortify this bird against the stings of those insects which constitute its principal food. The ignorance of Bruce, who knew nothing of natural history, but who has presumed to ridicule Dr. Sparrmann's account of this bird, which happens to differ from another species found in Abyssinia, deserves notice, as affording a warning to travellers not to write about scientific matters which they do not understand

The Republican Weaver (*Loxia socia* L.), like several other birds of the same family, lives in vast societies, uniting their nests under one common roof, sometimes to the number of 800 or 1000 in a single community. These little towns, indeed, are the progressive increase of several years, for the birds are observed to add to the size of their common dwelling every season, until the trees, unable to support any farther weight, not unfrequently fall to the ground; when the birds, of course, are compelled to seek a new site for their habitation. Mr. Patterson, who first made us acquainted with these extraordinary ornithological villages, affirms that there are many entrances, each of which formed a regular street, having rows of nests on each side, at about two inches distance from each other. He describes the bird itself, however, so loosely, that the precise species is very doubtful. The whole of this tribe of birds (Plocianæ *Sw.*) spread over India and Africa are celebrated for the skill with which their nests are constructed.

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Scarlet Weaver.

The Scarlet Weaver (*Euplectes Orix* Swains.) (*fig.* 858.) is a superb species; with a plumage of the brightest crimson relieved by a velvety black; and is, indeed, one of the most beautiful birds of Southern Africa. It frequents reedy, marshy places, among which it constructs a curious nest composed of twigs closely interwoven with cotton, and divided into two compartments; there is but one entrance, and the whole is so compact, that it is impenetrable to the weather. It has been said that the innumerable flocks of these birds among the green reeds are inconceivably beautiful, the brightness of their colours giving them the appearance of so many scarlet lilies. Both Dr. Latham and Mr. Barrow have confounded several species under this name.

The insects of the interior, according to Dr. Smith, are more numerous than on the coast, being chiefly composed of such carnivorous coleopterous families as live in sandy tracts. But the forests on the western coast appear, from Mr. Barrow's Travels, to abound with beautiful Moths. The Locusts and Grasshoppers, on the Karroo plains, are in profusion. Mr. Burchell mentions one that was so exactly alike in colour, and even in shape, to the surrounding stones, that he should never have discovered it but by its motion. Strikingly opposed to this in brilliancy of colour is the Gryllus morbillosus, or Red-winged Locust, having livid tubercles on its thorax exactly resembling the early pustules occasioned by the small-pox.

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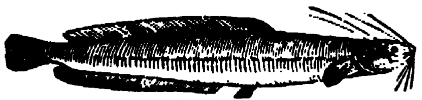

Gariep Silurus.

Fish, of large size, and mostly of unknown species, abound. It is singular that Eels are only found in those rivers which lie eastward of the Cape; while the Gariep Silurus (*Silurus gariepinus* Burch.) (*fig.* 859.) is equally restricted to those of the west: the latter is called *Platte-Rop.* The shells are not attractive: various Limpets and the *Haliotes Midæ*, or Great Earshell, are common; but those of the land and fresh waters have not been attended to. Among the former, however, is that large and beautiful snail, Achatina zebra.

The Ox is the chief domestic animal, being used throughout Southern Africa for all purposes of draught, and even for the saddle. The Zebras, common in the interior, have never been tamed. Horses are scarce; the breeds in the colony have been partly introduced from Europe, South America, and even from Persia: the latter breed is still preserved in much of its purity in the northern districts of the colony: they are very tall, without being strikingly handsome, strong, and endure much fatigue: the hoofs grow so hard as not to require shoes. (*Lich. Tr.*). The increase of horses in Graaf Reynet, from 1804 to 1811, was only 9804, while that of the draught and breeding oxen was 78,334, or had very nearly doubled in seven years. The Bachapin and Bichuana nations of the interior, Mr. Burchell observes, have no horses, nor are any to be found among the Bushmen tribes or some of the Hottentots. At Lattakoo there are plenty of dogs, but cats are unknown. The Namaquas, according to Le Vaillant, possess the most handsome and vigorous breeds of domestic animals of any in Southern Africa. The oxen are equally as strong as those of the colony, but are trained into three different classes: beasts of burden or draught, saddle oxen, and war oxen. These saddle oxen are much superior to the horse in supporting fatigue, and only inferior to him in swiftness. The war oxen seem peculiar to this nation. They are chosen from the most savage and ungovernable, and being driven against the enemy, they become furious at the sight of the adverse host, and rush on the men like wild bulls. These formidable creatures are not only capable of repelling wild beasts, but will even attack them. The sheep of the colony are of the fat-tailed breeds; those of the Namaquas resemble the European, but stand higher and are larger.

Sect. III.—*Historical Geography.*

The discovery and settlement by Europeans are the only circumstances connected with this region which bear any historical character. The Cape, which forms its most remarkable feature, was descried and rounded, in 1493, by Bartholomew Diaz; but that navigator, appalled by the stormy aspect produced by currents from opposite oceans, returned and named it the Cape of Tempests. Emanuel, however, who then reigned in Portugal, inspired by a bolder spirit, called it the Cape of Good Hope, and equipped Vasco da Gama, who, in 1497, passed with safety, and even with ease, round this dreaded boundary into the seas of India. The Portuguese, however, engrossed by vast schemes of Eastern discovery and conquest, scarcely deigned to cast an eye over this rude border of Africa. They were content if their vessels, in passing, could be supplied with water and provisions.

The Dutch, a prudent and economical people, when they obtained the dominion in the Indian Seas, soon discovered the advantages to be derived from a settlement on a coast to which its situation attached so much commercial importance. In 1650 they founded Cape Town, and from the rude and sluggish character of the people thinly scattered over this immense tract, easily extended their settlement to its present limits of the Nieuweldt Mountains in the north, and the Great Fish River in the east. In consequence, however, of the political union of Holland with France and consequent war with Great Britain, Cape Town was in September, 1795, attacked and reduced by a British naval force. It was restored by the peace of Amiens, but on the renewal of hostilities, was recaptured in January, 1806, and was one of the few Dutch possessions retained by Britain in the treaty concluded at the congress of Vienna.

Sect. IV.—*Political Geography.*

Little, in a general view, can be said under this head. The country consists partly of the Cape territory, which is governed on the usual system of British colonies, partly of a region divided among a multitude of small separate tribes. The usual government is that of a rude monarchy irregularly controlled by the independent spirit of simple and pastoral races. The details respecting both the government and productive industry of a territory split into so many minute portions, can only be given with advantage under the local divisions.

Sect. V.—*Civil and Social State.*

The population of a region of which the very boundaries are yet so undetermined cannot even be made a subject of conjecture. We shall, however, be afterwards able to state that of some particular places and districts.

The classes of inhabitants in this part of Africa exhibit a considerable variety. They consist of—1. The British, comprising the officers of government, the troops, and a few thousand agricultural emigrants, whose numbers are not, however, increasing. 2. The Dutch, who farm most of the lands in the territory, and constitute the most numerous part of the population of Cape Town. 3. The Hottentots, the native race, reduced to degrading bondage under the Dutch. 4. The Bosjesmans, a miserable and savage tribe of Hottentots, inhabiting the mountainous districts, carrying on a constant predatory war against the settlers. 5. The Caffres, a fierce pastoral race, inhabiting the country beyond the eastern limit of the colony, extending along the Indian Ocean. 6. The Boshuanas, a pastoral and partly agricultural race, of a different character, possessing the country that stretches northward from the boundary chain of mountains. These different classes will be best treated of under the local divisions to which they belong.

Sect. VI.—*Local Geography.*

The three great divisions of Southern Africa are 1. The Cape colony. 2. The country of the Caffres. 3. The country of the Boshuanas.

Subsect. 1.—*The Cape Colony*

This colony, of which the general boundaries and aspect have already been described, is estimated by Mr. Barrow to extend 588 miles in length, and 315 in its greatest breadth; but the average breadth does not exceed 200, and the surface consists of about 120,000 square miles. A great portion consists of mountains of naked sandstone, or of the great Karroo plains, whose hard dry soil is scarcely ever moistened by a drop of rain, so that seven-tenths of the territory never exhibit the least appearance of verdure. Along the coast, however, and also far in the interior, along the foot of the Sneuwberg Mountains, there are extensive plains covered with rich pastures. The banks of the rivers are in many places fertile, though liable to inundation. The hills in the vicinity of the Cape are employed in the production of a wine, which, by the encouragement of low duties, has been imported into England; but it is very little esteemed, with the exception of that delicate species made from grapes reared near the village of Constantia, the quantity of which, it is said, might, with good management, be greatly augmented. The grain is raised almost exclusively within three days' journey of Cape Town, and serves merely for the supply of that place; all the rest of the territory is devoted to pasturage. The population of the colony is about 150,000, of whom 33,000 are registered apprentices.

The Dutch farmers, or boors, of whom grazing forms thus almost the sole occupation, hold very extensive premises, reaching often for several miles in every direction. Yet spacious limits of domains do not prevent frequent boundary-feuds, which are, indeed, fomented by the plan of measuring them, not by the rod and line, but by the pace of an officer employed for that purpose, who is alleged sometimes to measure his strides according to the favour with which he regards the parties. The boor, having covered this extensive possession with flocks and herds, resigns himself to supine indolence, devolving the sole labour on his slaves, who are usually Hottentots. He draws from his farm neither wine, fruits, nor vegetables; nor does he make his herds yield milk or butter. The pipe never quits his mouth except to take his *sopie*, or glass of brandy, and to eat three meals of mutton, soaked in the fat of the large-tailed sheep. The mistress of the mansion, in like manner, remains almost immoveable on her chair, with hot coffee on a table always before her. The daughters sit round with their hands folded, rather like articles of furniture than youthful and living beings. A teacher is usually employed; but, in addition to his proper functions, he is obliged to employ himself in the most menial offices. Yet they are hospitable in the extreme. A stranger has only to open the door, shake hands with the master, kiss the mistress, seat himself, and he is then completely at home. Those who occupy farms on the borders of the Sneuwberg, where they are exposed to the depredations of the wild Bosjesmans, acquire, in consequence of the necessity of defending their property, more energetic and active habits.

The Hottentots, the original inhabitants of this country, have now been completely enslaved, not being indeed liable to sale, but fixed to the soil as bondmen. They have been branded as presenting man in his rudest state, and his closest alliance with the brute; and certainly they have spared no pains to render their external appearance hideous and disgusting. Their persons are studiously invested with a thick coating of grease, which, mingling with the smoke, in which they are almost perpetually involved, forms a black thick cake, through which the yellowish-brown colour of the skin is scarcely ever discernible. For this ornamental purpose, butter is employed by the rich, while the poorer classes besmear themselves with fat from the bowels of slaughtered animals. Yet this coating is said to be really useful in defending them from the solar rays, and preventing cutaneous disorders. Hard and coarse hair in irregular tufts, and prominences of fat jutting out in places where they are least ornamental, complete the picture of deformity. All their habits of life are filthy and slovenly. When a sheep or an ox is killed, they indulge in beastly gluttony; ripping open the belly of the animal while yet half alive, and tearing out the entrails, which they throw on the coals and greedily devour. Their villages or kraals, compose a labyrinth of little conical hovels, reared of twigs and earth, and so low that the inmates cannot stand upright. Yet their aspect of sluggish stupidity seems, in a great measure, induced by the degrading bondage in which they are held. They pursue wild animals with swiftness and dexterity, directing with a sure aim their darts and arrows. They carry on various little manufactures, tanning and dressing skins, forming mats of flags and bulrushes, bowstrings from the sinews of animals, and even moulding iron into knives. In their free state they had a republican form of government, and were led to battle by their konquers, or captains, to the sound of the pipe or flageolet; they had also the same passion for the dance and song which is general throughout Africa. The charge of their having been strangers to every religious idea seems now completely disproved.

The Bosjesmans appear to belong to the same original race with the Hottentots; but, from the rude haunts which they occupy, have preserved a precarious independence. They inhabit the most inaccessible valleys of the Sneuwberg and Nieuweldt, and the desolate tracts extending thence to the Orange River. Of all human beings, their condition is perhaps the most forlorn. Their food is obtained only by scrambling over the rocks in pursuit of wild animals, swallowing the larvæ of ants and locusts, or carrying off cattle in wild foray from the plantations in the plains beneath. Yet they display energy, activity, and even gaiety. They shoot their little poisoned arrows with surprising accuracy; and, when pursued, bound from rock to rock with an agility which defies European pursuit. They can endure long fasts, during which, however, their frames become extremely lank and meagre; but when they succeed in obtaining a supply of animal food, they devour it voraciously in amazing quantities. Considerable ingenuity is shown in the pictures of animals drawn by them upon the rocks. On moonlight nights, they dance without intermission from sun-set till dawn; and sometimes, when cheered by the prospect of fine weather, continue this exercise for several days and nights. They are in a state of continual warfare with the settlers in the plains beneath; not only carrying off their cattle, but putting to death, in a cruel manner, all who fall into their power.

A British agricultural colony was some years ago attempted in the district of Albany, the most easterly part of the territory, lying between the Zoondags and the Fish Rivers. The fertility of the soil rendered the situation promising; and in 1820 several thousand emigrants were located upon it. The experience of three disastrous seasons, however, in which the crops were ruined by alternate drought and inundation, appeared to prove the district unfit for tillage, and suited only to pasturage, for which the allowance of a hundred acres made to each emigrant was too small. The distress became extreme, and numbers quitted the settlement; but recently the district has been in a flourishing condition, and carries on a lucrative commerce with the tribes of the interior.

Cape Town, the capital of Southern Africa, and the most important European settlement on the continent, is situated near the isthmus of a peninsula, formed by False Bay on the east, and Table Bay on the west, on which last the city itself is built. Immediately behind rises precipitously the Table Mountain, 3582 feet above the sea, and consisting chiefly of steep cliffs of naked schist and granite. The Devil's Hill, 3315, and the Lion's Head, 2160 feet high, rise on each side. This triple summit forms a most conspicuous object from the sea, over which also these spots command a very striking prospect. Table Bay affords an abundant supply of excellent water, and is capable of containing any number of vessels; but from May to September they are in danger from heavy westerly gales, and it is advisable to take a station at the head of False Bay. Cape Town (*fig.* 860.), being the only good place of refreshment for vessels between Europe and America, on one side, the East Indies, China, and Australia, on the other, must always be a great commercial thoroughfare. The territory itself affords for exportation wine, hides, and skins, with aloes, argol, wool, and a few other articles. The value of the imports in 1833 was 258,456*l.*; of exports 256,808*l.* The Dutch society at the Cape is extremely mercantile, and koopman, or merchant, is held as a title of honour; but the prevalence of slavery has diffused habits of indolence, even among the lower ranks, who consider it degrading to engage in any species of manual labour. Since the occupation by Britain, the residence of civil and military officers and the great resort of emigrants and settlers have given it much the character of an English town. The population of Cape Town is upwards of 20,000.

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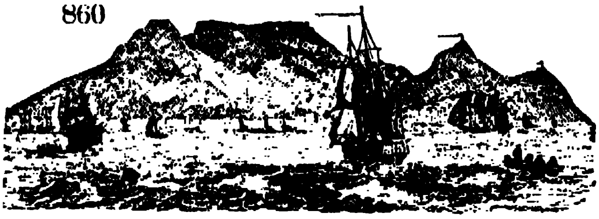

Cape Town.

The other places in the colony are, in general, only drosdys, or villages, which, in a country entirely agricultural, derive their sole importance from being the seat of the local administration. Constantia and Simon's Town, in the close vicinity of the Cape, are supported, the one by the produce of wine, the other by docks for shipping. Stellenbosch and Zwellendam, the chief places in the two most flourishing agricultural districts adjoining, contained, some time ago, the one only seventy, the other thirty houses. Graaf Reynet and Uitenhagen, at the head of extensive districts in the east, are not more important. Gnadenthal has been made a neat village by the missionaries, who have fixed it as their principal station. The only place which has risen to any importance is Graham's Town, in the district of Albany, near the eastern extremity of the colony. The troops stationed there to watch the Caffre frontier, with the recent colonists, who, disappointed in their agricultural pursuits, sought other employment, have swelled its population to about 3000. It is described by Mr. Rose as "a large, ugly, ill-built, straggling place, containing a strange mixture of lounging officers, idle tradesmen, drunken soldiers, and still more drunken settlers." It is romantically situated in a deep valley, surrounded by hills and glens, through which heavy wagons are seen coming often from a great distance, not only with provisions and necessaries, but skins of the lion and leopard, buffalo horns, eggs and feathers of the ostrich, tusks of the elephant and rhinoceros, and rich fur mantles.

Subsect. 2.—*The Territory of the Caffres.*

This territory extends from the eastern boundary of the colony along the coast of the Indian Ocean, the north-eastern direction of which it follows. On the west, it is bounded by the country of the Boshuanas, at the distance of about 200 or 300 miles from the sea; but this frontier has never been precisely explored. To the Caffrarian coast, which reaches about as far as Delagoa Bay, the Portuguese have given the name of Natal; which has been followed by navigators, though it is, of course, quite unknown to the natives.

The Caffres (a name given by the Portuguese) are extremely handsome in their external appearance. The men, especially, are tall, robust, and muscular, yet of the most elegant symmetry of form. Their manners are easy, and their expression frank, generous, and fearless. The females are less beautiful, their persons are somewhat short and stunted, and the skin of a deep glossy brown; but their features are almost European, and their dark sparkling eyes bespeak vivacity and intelligence. The Caffres are, perhaps, of all nations the most completely pastoral. They lead a roaming life ill suited for agriculture; they have not applied themselves to fishing; and game is scarce: but they understand thoroughly the management of cattle. The men not only tend but milk the cows, and have the skill, by a particular modulation of the voice, either to send out a herd to graze, or recall it to the enclosures. They subsist generally upon milk, and never kill a cow but on high occasions. Several branches of manufacture are practised with skill, as making baskets of grass, sharpening iron by stones, though they cannot smelt it. They have engaged in repeated wars with the European settlers; but the blame, in many instances, seems to have been on the side of the latter.

The Caffres are divided into several distinct tribes. The Tambookies, more remote than those which border on the colony, appear to be more industrious, and distinguished for their skill in working both silver and iron. Beyond them are the Zoolas, or Hollontontes, the most numerous and powerful of all the Caffre tribes. Their king, Chaka, according to Mr. Thompson, has a force of 15,000 men constantly equipped for war, and on urgent occasions can arm 100,000 men, who comprise, we presume, the whole adult male population. He has been the most formidable conqueror in this part of Africa. He has driven before him a number of the neighbouring tribes, who, under the name of Mantatees, or wanderers, seeking new habitations, have desolated a great part, first of the Boshuana and then of the other Caffre territories, and even threatened the colony.

Subsect. 3.—*The country of the Boshuanas.*

The country of the Boshuanas, or Bichuanas, occupies a considerable extent of Southern Africa, extending northward from the colony, from which, however, it is separated by a considerable interval, in which are found the Sneuwberg Mountains, the banks of the Orange River, and the pastoral district of the Corana Hottentots. On the east, it has the Caffre territory; on the west, extensive deserts; while on the south is the domain of a numerous and powerful tribe, the Macquanas, or Makooanas, supposed by Mr. Salt to extend as far as Mosambique. The very existence of this people was not suspected by Europeans till 1801, when Messrs. Trutter and Somerville, being sent from the Cape to procure a supply of cattle, after journeying for a long time through pastoral wildernesses, arrived very unexpectedly at Lattakoo, a town so large and regular that it might almost be termed a city. The country was not only covered with numerous herds, but showed considerable signs of cultivation. To improve this discovery, Lord Caledon sent Dr. Cowan and Lieutenant Denovan, with a party of twenty men, to penetrate through the territory to Mosambique. They reached considerably beyond Lattakoo into a country which their accounts described as still improving in beauty and fertility; but, having arrived in the territory of a hostile tribe, and neglected the necessary precautions, they were surprised, and entirely cut off. Since that time, however, Mr. Campbell, animated by a laudable zeal to diffuse Christianity among the African people, has not only twice visited Lattakoo, but has penetrated 200 miles farther to Kureechanee, the most northern and the largest of the Boshuana states. Two intelligent travellers, also, Dr. Lichtenstein and Mr. Burchell, though unable to advance so far, have made accurate observations on the manners and social state of these tribes.

The Boshuanas are not in their persons so tall and handsome as the tribes of Caffraria; but they have made a considerably greater progress in industry and the arts. Instead of the nomadic and purely pastoral life which the latter pursue, they dwell in towns of considerable magnitude and regularly built. The houses are commodious, constructed of wood, plastered with earth, and in many places encircled by a stone wall, and ornamented with painting and sculpture. They cultivate the ground, rearing millet, two species of bean, gourds, and water-melons. A space round every town is appropriated to culture, while a wider range beyond is pastured by the cattle, which are every night brought within the protection of the walls. The labour, indeed, not only of tilling the ground, but of building the houses, is devolved upon the females; but the men, as in Caffreland, both tend and milk the cows. The favourite wives of the kings and principal chiefs are exempted from labour, and are loaded with fantastic ornaments, their large mantles, as well as their persons, being profusely bedecked with furs, feathers, coral, beads, and brass rings (*fig.* 861.). The first discoverers painted their character in the most flattering colours; and they appear really to be honest and friendly to each other, and to strangers who have gained their good-will. But the enmity between neighbouring tribes is as deadly, and the mode of conducting war as barbarous, as among the rudest African hordes. They place their glory in commandos, raids or forays, undertaken with the view of carrying off cattle and murdering the owners. In consequence of this mutual hostility, the population is almost entirely concentrated in the towns or their immediate vicinity; the open country, though extremely fertile, is covered with luxuriant grass growing to waste, and tenanted only by a few wandering Bushmen. Notwithstanding their simple manners, a considerable inequality of rank prevails, founded chiefly on wealth, which those in power find the means of increasing during their incessant predatory contests. Matcebe, king of Lattakoo, used to squat on the ground, chattering and exchanging pipes with the lowest of the people. The greatest chiefs, in going to war, are provided merely with a light shield, a few darts, and the skin of a wild beast flowing over their shoulders, and leaving the greater part of the body naked (*fig.* 862.). They enjoy even a species of republican constitution, the most important affairs being decided by an assembly of the chiefs. Even in their way to the meeting, they indulge in strange gambols, leaping into the air and brandishing their weapons, as if to attack and stab a mortal enemy The circle being formed, they join in a song, which the principal person often follows by a dance. The proceedings also are prefaced by dances and cries imitating the barking of dogs; yet when they come to the speeches, these are replete with good sense, and even a rude species of eloquence. The females stand behind, cheering those whose sentiments they approve, and loudly deriding whatever they consider ridiculous.

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Queen of Lattakoo.

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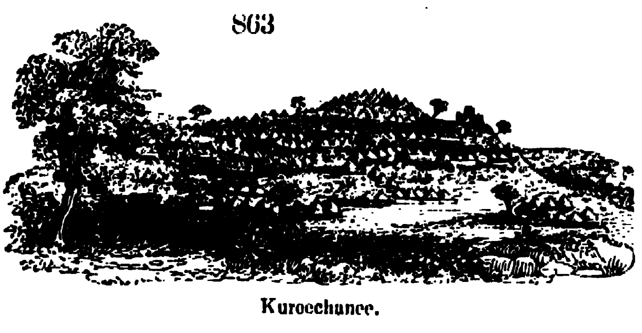
Young King of Marootzo.

The towns, in consequence of the circumstances already mentioned, which have induced nearly the whole population to assemble in them, possess greater magnitude than might have been expected from the state of cultivation and society. Lattakoo was the first visited, and the name remains, though, in consequence of a schism in the tribe, the town has been transferred to a spot about sixty miles farther north. New Lattakoo is supposed to contain about 6000 people. Meribohwey, capital of the Tammahas, is not of equal importance. Mashow, to the north, where the territory of the Barolongs commences, is a fine town with 10,000 inhabitants, beautifully seated on a hill, and surrounded by a number of lesser eminences. Within a circuit of twenty miles there are twenty-nine villages, and almost uninterrupted cultivation: the habitations and furniture are superior to those of Lattakoo. The population is estimated at 10,000 or 12,000. Melita, capital of the Wanketzens, also a tribe of Barolongs, is likewise an important place. But the largest and best built city in Southern Africa, and the one whose inhabitants have made the greatest progress in the arts of life, is Kureechane (*fig.* 863.). The people are in number about 16,000; they smelt iron and copper in large clay furnaces; their houses are surrounded by good stone enclosures, and the walls, of mud, are often painted, as well as moulded into ornamental shapes. Considerable skill is shown in the preparation of skins, as well as in the vessels of earthenware used for holding corn, milk, and other stores. This city was unfortunately sacked by the Mantatees in their late inroad. Bakarrakari, considerably westward of the places now described, in a country of extensive plains and forests, is as yet little known.

863



Kureechane.

CHAPTER VIII.

EASTERN AFRICA.

Eastern Africa comprises an immense extent of coast, reaching from the Caffre country to the border of Abyssinia, a length of about 3000 miles. It may be considered as extending inland about 500 or 600 miles from the sea, but its contents, for the most part, and all its boundaries on this side, are unknown. This vast range of country contains many grand features of nature, and a large proportion of fertile territory, capable of yielding the most valuable productions; yet scarcely any part of the world is less known, or has excited less interest among Europeans. The Portuguese, as soon as they had discovered a passage into the Indian seas, occupied all the leading maritime stations, from which they studiously excluded every other people.

Extensive, though ill-explored, natural objects diversify this region. The coast consists almost entirely of spacious plains, often of alluvial character, and covered with magnificent forests. It appears, however, undoubted, that at 200 or 300 miles in the interior, considerable ranges of mountains arise; geographers have even delineated a long chain parallel to the coast, called Lupata, or the Spine of the World; but Mr. Salt is of opinion that the prolongation of this beyond the region of the Upper Zambeze is very arbitrary. The rivers also are of great magnitude, though only their lower course is at all distinctly known. The Zambeze may rank in the first class, and, according to probable information and conjectures, appears to flow across nearly the entire breadth of the continent. It enters the Indian Ocean by four mouths, of which the principal are Cuama and Quilimane, each of which sometimes gives name to the whole river. Near Quiloa, several great estuaries enter the sea, which, according to the most recent accounts, appear to be the mouths of the great river Lufigy, the principal river of this part of the coast. Although narrow and barred at its mouth, it expands above into a broad and deep stream, and at certain seasons inundates the country for many miles around. The Pangany, near Mombosa, is also an important river, but the Quilimanci, which *figures on our maps as entering the sea at Melinda, is said to have no existence. The Juba of the coast a little further north, is the Zebee of the interior. The only great lake hitherto mentioned is the Maravi, in the interior from Quiloa and Mosambique, which is generally represented as of great extent, and resembling an inland sea.*

We are too ignorant of the line of coast on the east side of Africa to attempt any notice even of its general vegetation, and shall content ourselves with noticing two interesting and useful plants, for a botanical knowledge of which we are chiefly indebted to the enquiring mind of C. Telfair, Esq. of the Mauritius.

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Colombo Plant.

The first is the Colombo Plant (*fig.* 864.), of which the root is a well-known article in the Pharmacopœia, as of singular efficacy in strengthening the stomach and bowels, and curing the cholera morbus, dysentery, and other diseases of the alimentary canal. It has been long used in the East Indies, though its history and native country were involved in much obscurity: some having supposed it to be a native of Colombo, in Ceylon, because of its name. It is now ascertained that it grows naturally in the thick forests that cover the shores of Oïbo and Mosambique, as well as inland for several miles. The natives never cultivate it, the spontaneous produce being sufficient; after digging up the root, they cut it in slices, and, stringing them on cords, dry them in the sun. It is held in high esteem by the people, who use it for the cure of dysentery, for healing ulcers, and as a remedy for almost every disorder. The late Sir Walter Farquhar, physician to the king, was very desirous to obtain the Colombo root in a living state, and, after many fruitless endeavours, made by his son, Sir Robert Farquhar, Governor of Mauritius, who was opposed by the Portuguese authorities on various pretences, but mainly because they were unwilling to permit the exportation of so valuable an article, he finally succeeded in obtaining, through Captain Owen, of his majesty's ship Leven, growing roots of the Colombo plant. These were distributed to the Mauritius, New Holland, the Seychelles Islands, &c. and it is thus to be hoped that this valuable plant may be naturalised in these countries, and that its culture may be rendered an object of industry and resource to the planters of the Mauritius.

The second is the Telfairia volubilis (*fig.* 865.) a climbing plant lately discovered on the coast of Zanzibar, of very easy cultivation, and producing an esculent fruit, three feet long, and full of seeds as large as chestnuts (264 in one fruit), which are as excellent as almonds, and of a very agreeable flavour: they also yield an abundant oil, equal to that of olives. It was originally brought by M. Bojer, of the Mauritius, from Pemba, on the shores of

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Telfairia Volubilis.

Zanzibar, where it grows in the forests, enveloping the trees with its branches, and sometimes with a stem 18 inches in circumference. The seeds have been distributed to Bourbon and New Holland, and by the missionaries to New Zealand and Tahiti. At Mauritius it has thriven so well, that it produced stems 30 feet high, and in the stove of the late R. Barclay, Esq. of Bury Hill, to whom Mr. Telfair sent seeds, it grew so luxuriantly, that the pruning-knife was in constant requisition to prevent its filling the whole house. A plant so easy of cultivation must soon become common in all countries, and thus will Mr. Telfair have the honour of giving a most useful vegetable to mankind, as well as a name to a new and very beautiful plant.

Our zoological knowledge of this portion of Africa is lamentably deficient. The whole extent of the eastern coast, from lat. 30° south to 10° north, has never yet been visited by the naturalist; and the zoology of Abyssinia and Egypt having already been noticed, leaves us nothing further to say on this head.

This territory is generally occupied by brown or black nations, who, however, bear no resemblance to the true negroes except in colour; some of them are numerous, and not destitute of arts and industry. The coast, however, has, in modern times, been chiefly in possession of two foreign powers. The Portuguese, when, in the close of the fifteenth century, they made their way round the Cape, found almost all the maritime stations in the hands of the Arabs, whom they called Moors, and whom they succeeded in driving successively from each, and occupying their place. It would be illusory to attempt delineating, under regular heads, the political, commercial, or social state of a region composed of such various parts, so imperfectly known; but, in a successive view of its local divisions, we shall endeavour to concentrate the little that modern observation has ascertained on the subject.

Beginning from the south, we find Sofala, which at the time of the first arrival of Europeans was very important, as the emporium of the gold and ivory brought in great quantities down the Zambeze. Since Quillimane became the channel by which these commodities were conveyed, Sofala has sunk into a village of poor huts. The Portuguese, however, still maintain there a fort, which holds supremacy over the more southerly stations of Inhambane and Corrientes. An annual vessel comes from Mosambique, with coarse cotton and other articles, in return for which it receives gold, ivory, and slaves. The place is situated on a considerable river; but, in consequence of extensive sand-banks and shoals, which appear to have increased, it is difficult of approach unless for small vessels. The natives seem to be of the Caffre race, well armed, brave, and independent.

Inhambane, to the south, has an excellent harbour, and is defended by a fort and 150 men. The other Portuguese do not exceed twenty-five; but there is a numerous coloured population. Few slaves are procured here, the natives being fierce and warlike; but about 100,000 lbs. of ivory, and some wax, are sent to Mosambique. Quillimane, at the mouth of the Zambeze, is now the chief seat of trade on this part of the coast. From eleven to fourteen slave vessels come annually from Rio de Janeiro, and each carries off, on an average, from 400 to 500 slaves. The situation is swampy and unhealthy; but the population is nearly 3000, though only twenty-five houses are occupied by Portuguese or their descendants.

Mosambique is the principal establishment of the Portuguese in Eastern Africa. Though it derive its importance from being the emporium of the gold, ivory, and slaves, brought down the Zambeze, it is situated about 300 miles from the mouth of that river, and the trade is in a great measure transferred to Quillimane. It is built on an island, which has a good roadstead and a commodious pier, but affords by no means either a convenient or healthy situation. The principal inhabitants have their houses at Mesuril, on the continent, at the extremity of the peninsula of Caboceiro. The trade in slaves, the most extensive, has been much diminished since the British obtained possession of Mauritius and the Cape, and prohibited the introduction of them into these colonies. The export is not supposed, by Mr. Salt, now to exceed 4000, sent chiefly to Brazil; yet Mr. Bowdich states the number in 1818 at 8164. The population is reckoned, by Mr. Salt, at only 500 Portuguese, 800 Arabs, and 1500 negroes; but the narrative of Captain Owen's voyage reckons the whole at 6000. There is a fort sufficient to defend it against the pirates who infest these seas, but not to secure it against the attack of any regular force. Yet the government-house displays still remnants of the former splendour of the viceroys of Eastern Africa. Like the custom-house, and other public structures, it is spacious, and built of stone, though falling into decay. The governor, and even his negro attendants, are richly loaded with golden ornaments; tea, to which the principal inhabitants are every evening invited, is presented in a full service of gold. The dominion of the Portuguese scarcely extends beyond the peninsula of Caboceiro: and they are with difficulty able, by alliance with the chiefs of Quintangone and Sereime,

to make head against the Makooa, a populous and warlike tribe, occupying a great extent of the coast.

In the interior, on the Upper Zambeze, the Portuguese possess merely the small forts of Sena and Tete, erected with a view to the protection of their trade, with two still smaller in the more remote stations of Zumbo and Manica. In these settlements, joined to that of Quillimane, they maintain 264 troops, and have a population of 500 Christians, with 21,827 slaves. The ground being generally fertile, and abounding particularly with honey, wax, senna, and other dyeing drugs, they draw from the land attached to these stations a revenue of 2,900,000 reis. Monomotapa, or more properly Motapa (since Mono is merely a general term for kingdom), has been dignified in the early narratives with the title of empire. If it ever deserved such an appellation, it is now broken into fragments, the largest of which is held by Changamera, who, under the title of Quiteve, resides at Zimbao, the ancient capital. He belonged to the Maravis, a race of daring freebooters, who neglect agriculture, and devote themselves entirely to plunder. Farther to the north are the Monjous, inhabiting the country which figures in the early maps as the empire of Monumugi. They are negroes of the ugliest description, of a deep shining black, with high cheek-bones, thick lips, and small knots of woolly hair on their heads. Their only weapons are bows and arrows. Manica is celebrated as the country chiefly affording the gold for which this part of Africa is famous. A Portuguese expedition, in 1569, penetrated thither: they found the mines by no means to answer their reputation, but to consist chiefly of gold dust in small quantities, embedded in sand and earth, from which the metal was laboriously extracted. A small fort, as already observed, is maintained in this district. The Cazembes, a numerous people far in the interior, are completely subject to the will of a despot; yet their country yields in abundance iron and copper, and is the seat of a very considerable trade in ivory and slaves. The Movizas are a comparatively peaceable and industrious race. The Bororos are a great people, reaching, it is said, nearly as far as Mombaza; but they are very little known.

In the coast north from Mosambique occur the Querimba Islands, giving name to the opposite coast. They were laid waste by the Portuguese at their first arrival, but were afterwards repeopled by colonists from Mosambique. They have suffered, however, by attacks from the Madagascar pirates. Quiloa, about 100 miles north-west from the bold promontory of Cape Delgado, was found by the Portuguese a great seat of power and commerce. About the end of the seventeenth century it was wrested from them by the Imâm of Muscat, whose officers have since governed it. It is now dwindled into a miserable village. Mombaza is situated on an island about three miles long and two broad, surrounded by cliffs of madrepore, which make it a kind of natural castle. The country is fertile in corn, and fit for the sugar-cane, and the small shells called cowries are collected in great abundance on the shore. The harbour is excellent, and a considerable trade is carried on along the coast in dows, often of 250 tons burthen. Britain, for two years, maintained a factory there, but withdrew it in 1827. Melinda, long the handsomest and most flourishing city on this coast, has been completely destroyed by the Galla. Patta, once of great importance, is now much decayed, and a great part of its trade transferred to the neighbouring flourishing port of Lamoo. Parallel to this coast, at the distance of about twenty or thirty miles, are the small but fine islands of Pemba, Zanzibar, and Monfia. They are of coral foundation, but the surface is flat, and covered with a soil highly productive in grain and sugar. The climate, however, especially that of Zanzibar, is very unhealthy. They are partly independent, partly subject to the Imâm of Muscat. The town of Zanzibar is said to contain 10,000 inhabitants.

Magadoxa, called also Mukdeshu, is a considerable town, lying to the northward from Melinda. The prince having succeeded in maintaining his independence, and repelled all European intercourse, allows the country to be very little known. The British ship Albemarle, in 1707, sent a boat on shore, but it was detained, and never recovered; and a party from Captain Owen's vessel were kept in a species of prison. The city makes a handsome appearance from the sea, containing many lofty stone fabrics: but these belong to a part which, containing only tombs, may be called the City of the Dead. The habitations of the living are only low thatched huts. Brava, within the territory of Magadoxa, is also a port of some consequence. The whole coast, from Cape Delgado to the northern limit of Magadoxa, is commonly known by the name of Zanguebar. This territory, when discovered by the Portuguese, was occupied by the Sowhylese, a peaceable and industrious people; but the coast has now been mostly wrested from them by the Arabs of Muscat, while much of the interior is possessed by the Galla, the same ferocious race who have over-run Abyssinia, and who, in the course of a furious warfare, have destroyed every sea-port which was not protected by an insular position.

The coast of Ajan, the Azania of the ancients, extends from the northern termination of Zanguebar to Cape Guardafui, where Africa ceases to border on the Indian Ocean. This tract is generally arid and sandy, though in the northerly parts it becomes hilly and fragrant, like the neighbouring one of Berbera. That coast, extending from Cape Guardafui to nearly the Straits of Bab el Mandeb, is situated on neither the Indian Ocean nor the Red Sea, but on an intermediate gulf, bounded on the opposite side by the coast of Arabia. It is hilly and beautiful, and may be considered the native country of incense, myrrh, and odoriferous gums. The celebrity of Arabia, and particularly of Aden, for those elegant productions, is chiefly acquired by its large imports from this coast. The inhabitants consist of the various tribes of Somaulis, an active, industrious, and yet peaceful race, who export the productions of their own country, which is thus less known than it deserves to be. At the town of Berbera is an annual fair, where, according to Lord Valentia, there are sold 15,000 bahars (320 lbs. each) of gum, at 3*l.* 12*s.*; 2000 bahars of myrrh, at 4*l.* 12*s.*; frankincense, to any extent demanded, at 2*l.* 14*s.* Even gold and ivory are said to be brought from Hanim, a country situated twenty days' journey in the interior.

The country in the interior from this coast, though most imperfectly known, appears to be occupied by the Galla and other tribes, who surpass in barbarism even the rest of Africa. Here, in a wild and mountainous region, is the kingdom of Gingiro, described by Antonio Fernandez as ruled by a despot, elected with strange and superstitious ceremonies, and who celebrates his accession by the death of his predecessor's ministers and favourites, with whose blood the walls and gates of the palaces are dyed. We stand much in need, however, of recent information respecting this part of Africa.

Adel, or Adaiel, and Hurrur, form the most westerly part of this coast, and adjoin to the Straits of Bab el Mandeb. The inhabitants, united under the standard of the Mahometan faith, waged long and bloody wars, embittered by religious enmity, against Abyssinia. For a century back, their power has been broken, and they have been divided into a number of small separate states. Zeyla, the capital, is a place of considerable trade, and, though irregularly built, contains some good habitations.

CHAPTER IX.

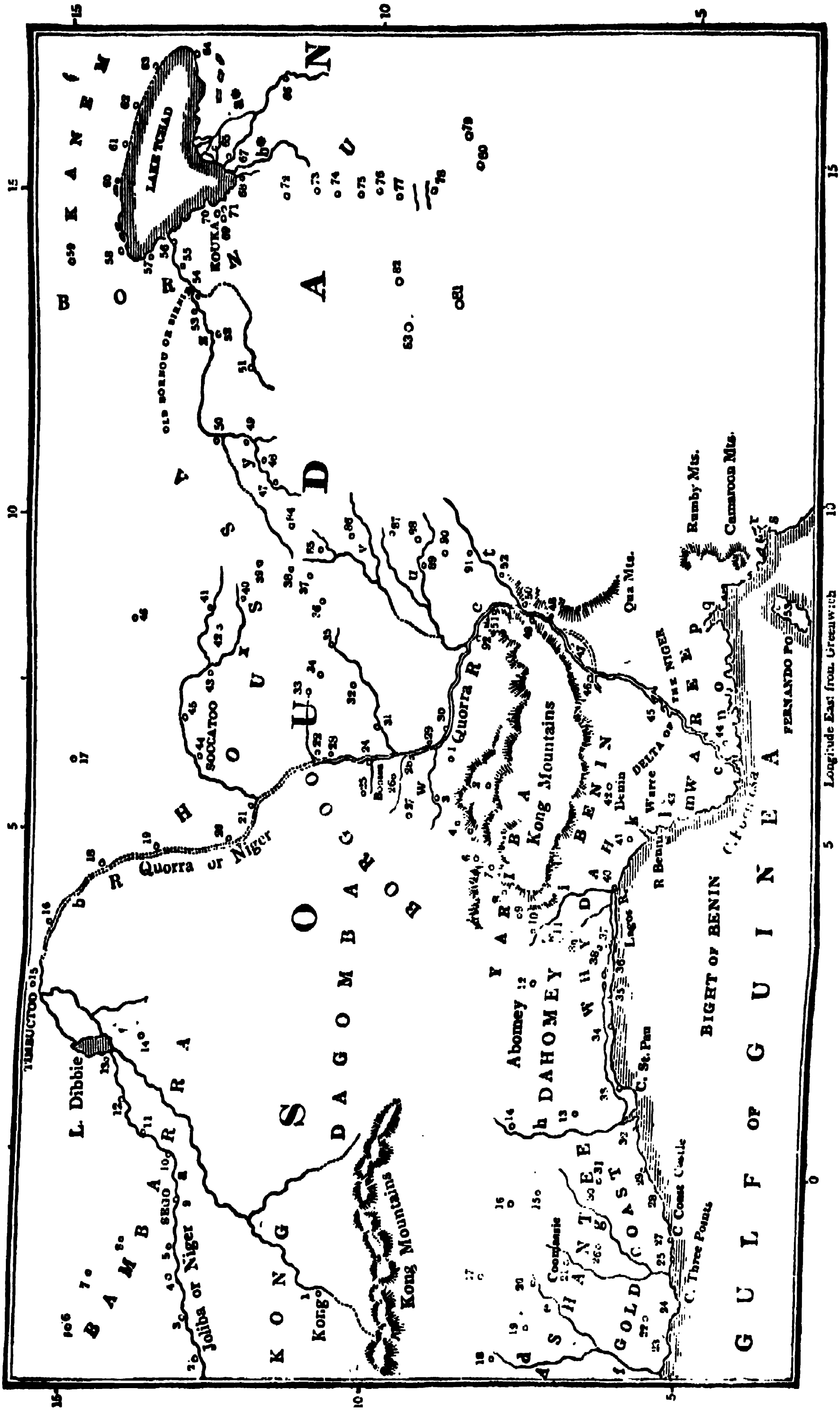
CENTRAL AFRICA.

The appellation of Central Africa may with propriety be given to an extensive and fruitful region, in the most interior part of that continent. Consisting of spacious plains, watered by noble rivers, and begirt on the south by lofty mountain chains, it forms one of the finest countries on the globe, and is inhabited by nations who have made considerable progress in industry and civilisation. Separated, however, from the sea-coast, and from the rest of the civilised world, by immense deserts tenanted by fierce and warlike banditti, it remained till lately almost unknown to Europeans, who heard only by vague rumour of its beauty and wealth. It is only within the last forty years that the daring enterprise of British travellers has traversed this region, and purchased, at a costly price, a tolerably accurate and extensive knowledge of it.

Sect. I.—*General Outline and Aspect.*

The extent and boundaries of a region like this, composed of various detached states and kingdoms, are exceedingly vague. From Western Africa it is separated by the limits already delineated. On the north it has the uniform boundary of the Great Desert, into which its fertile plains pass by rapid gradations. On the east, the great expanse of the lake Tchad, the sea of interior Africa, separates it from countries almost wholly unknown. The southern boundary, formed by tracts still more completely unexplored, cannot be drawn with any approach to precision. On the whole, however, we may esteem Central Africa as lying between the 15th degree of east and the 4th of west longitude, and the 8th and 16th of north latitude. It may thus include 1300 miles in length, and 560 in breadth, and form a square surface of about 700,000 miles.

A continuous chain of mountains, celebrated by the ancients under the appellation of the Mountains of the Moon, traverses the whole territory from east to west. It exerts a most beneficent influence in diffusing through this region coolness and moisture, and redeeming it from that arid desolation to which so great an extent of the continent is doomed. These mountains appear first on the western coast near Sierra Leone, where their lofty peaks, called the Mountains of the Lions, overlook the Atlantic. They then traverse the countries of Foota Jallo and Kankan, giving rise to the Senegal and Gambia; while the Niger, in its upper course, flows through their deep valleys. In this quarter the range is not very lofty, but presents a varied and picturesque aspect. Parke, in passing through Konkodoo and Satadoo, was much struck by the appearance of its glens and precipices, and the variety of forms which the rocks assumed, resembling ruined castles, spires, and pyramids. One granite mass had exactly the aspect of a Gothic abbey, with niches and ruined staircase. The same chain was crossed by Captain Clapperton, in the country of Yarriba, where its highest pinnacles were only between 2000 and 3000 feet; but the passes were exceedingly narrow and rugged, enclosed by huge granite blocks 600 or 700 feet high; yet every level


SOUDAN
BORNOU
KANEM
HOUSSA
LAKE TCHAD
KOUKA
OLD BORNOU OR BIRNIE
SOCCATOO
TIMBUCTOO
L. Dibbie
BAMBARRA
SEGO
Joliba or Niger
R Quorra or Niger
Quorra R
KONG
Kongo
Kong Mountains
DAGOMBA
BORGOO
Boussa
YARRIBA
Abomey
DAHOMEY
WHYDAH
ASHANTEE
Coomassie
GOLD COAST
C Coast Castle
C. Three Points
C. St. Pau
Lagos R
BENIN
Benin
Warre
R Benin
DELTA OF THE NIGER
BIGHT OF BENIN
GULF OF GUINEA
FERNANDO PO
Camaroons Mts.
Rumby Mts.
Qua Mts.
Longitude East from Greenwich

spot was covered with fine crops of yams, millet, and cotton, and large towns were built on the very summit of the ridge. Farther to the east, these mountains afford an opening, through which the Niger, swelled to a river of the first magnitude, forces its prodigious mass of waters; but their cliffs overhang the river, which dashes roughly over the rocky bed that it has worn for itself. Farther east still, south of the great plain of Houssa, Lander, in returning from his first journey, learned the existence of a very elevated region, inhabited by a savage race. But this chain appears to attain its greatest magnitude and loftiest height in the region south of Bornou. From the plain of Mandara (*fig.* 867.) above the capital, Mora, its bold steeps were seen rising, not more, indeed, than 2500 feet high; but they were understood to extend far southward, and to become much more elevated. This was confirmed by the appearance of several remote peaks in that direction, particularly one said to be thirty-five miles distant, and which had a most alpine character, much resembling the aiguilles of Mont Blanc, as seen from the Mer de Glace. They were known even to the rude natives by the classic appellation of the Moon Mountains.

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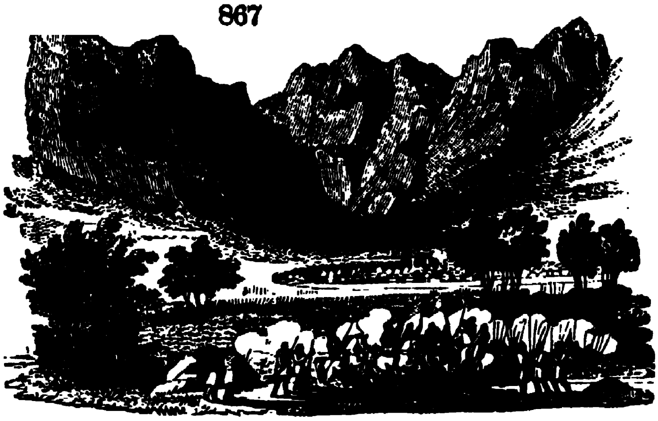

Mountains of Mandara.

The rivers, which derive their supply from this great mountain range, form a still more grand and celebrated feature. The great stream of the Niger, long involved in such deep mystery, has at length, through the persevering exertion of British travellers, been very completely explored. Its source, though not actually visited, seems ascertained by Laing to exist in the high country of Kissi, about 200 miles in the interior from Sierra Leone. Thence it rolls through Foota Jallo and Kankan, where Caillié found it a rapid and considerable stream. At Bammakoo, having received the tributary from Sankari in Manding, which Park mistook for the main stream, it begins its course over the fine plain of Bambarra; and at Sego, the capital, is described to be as broad as the Thames at Westminster. In this country it is called Joliba, but lower down receives the name of the Quolla, or Quorra. Beyond Bambarra it flows through the lake Dibbie to Timbuctoo; and its course from that city to Youri is proved by the fact of Park having navigated from one place to the other. As far as Timbuctoo the Niger has flowed north and north-east; but beyond that city it changes to the south-east and south. From Youri, its course, traced by Lander, is, with some winding, almost due south, till, at Kirree, about 170 miles from the sea, it begins to separate into branches, and forms a delta, the greatest, undoubtedly, in the world, whose estuaries extend along the coast from the river Formosa to that of Old Calabar, a space of about 300 miles. The whole line of this noble river, allowing for all its windings, can scarcely be reckoned at less than 3000 miles, and for several hundred miles of its lower course it forms a magnificent expanse, resembling an inland sea. Thus, though it cannot

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References to the Map of Central Africa.

NORTH PART.
1. Kong
2. Marraboo
3. Taffara
4. Yamina
5. Jabbee
6. Fanimboo
7. Geosorro
8. Doolinkeaboo
9. Sego
10. Sansanding
11. Silla
12. Jenne
13. Sibby, or Dibbie
14. Moosseedoo
15. Timbuctoo
16. Gouromou
17. Andar
18. Gotoijego
19. Kaffo
20. Carmasse
21. Gourmon
22. Youri
23. Sooloo
24. Boossa
25. Coobly
26. Wawa
27. Kiama
28. Lever
29. Loechee
30. Rabba
31. Tabra
32. Koolfu
33. Cubbie
34. Kotonkora
35. Guari
36. Zaria
37. Ashin
38. Sackwa
39. Kano
40. Faniroce
41. Kashna
42. Bershee
43. Zirmie
44. Soccatoo
45. Kalawawa
46. Samina Cora
47. Boogawa
48. Digoo
49. Katagoom
50. Hadeiga
51. Goobeen
52. Bedekarfeo
53. Kabshury
54. Old Bornou, or Birnie
55. Duguwa
56. Yeou
57. Burwha
58. Zari
59. Auonb Mull
60. Mabah
61. Foolie
62. Barri
63. Kongara
64. Bololo
65. Showy
66. Kussery
67. Mafatai
68. Angala
69. New Bornou
70. Kouka
71. Angornou
72. Affugay
73. Harborry
74. Ally Mabur
75. Mora
76. Hairy
77. Meekwa
78. Musfeia
79. M. Balla
80. Musgow
81. Adamowa
82. Mana
83. Karowa
84. Nansorina
85. Carifa
86. Damoy
87. Fullindushie
88. Lazumoe
89. Cokalo
90. Coogie
91. Jacoba
92. Egga.

SOUTH PART.
1. Eyeo, or Katunga
2. Alorie
3. Watatoo
4. Keeshee
5. Bohoo
6. Koosoo
7. Chaadoo
8. Dufo
9. Accodoo
10. Afoora
11. Egga
12. Abomey
13. Nagho
14. Odanty
15. Manbon
16. Couta
17. Ciritoo
18. Briquante
19. Yammy
20. Karaty
21. Coomassie
22. Cura
23. Axim
24. Aquedah
25. El Mina Castle
26. Akrofroon
27. Cape Coast Castle
28. Temma
29. Accarah
30. Akropong
31. Ashoofoo
32. Occo
33. Pourourah
34. Great Popoo
35. Whydah
36. Porto Novo
37. Badagry
38. Wow
39. Jenna
40. Lagos
41. Quassce
42. Benin
43. Waree
44. Brass
45. Eboe
46. Kirree
47. Damuggoo
48. Atta
49. Bocqua
50. Cuttum Curra-fee
51. Kacunda
52. Funda.

Rivers.
a Joliba, or Niger
b Quorra, or Niger
c Ba Nimma
d Bara
e Tando
f Assinee
g Bosempra
h Baha Aswady
i Akoony
j Lagos
k Benin
l Waree
m Ramos
n New Calabar
o Bonny
p Old Calabar
q Rio del Rey
r Cameroons
s Malimba
t Tshadda
u Coodoonia
v Accra
w Moussa
x Quarrama
y Shashum
z Yeou
a* Shary
b* Gambalarum.

rank with the Missouri and Orellana, those stupendous floods of the New World, it is at least as large as any of those which water the old continents.

The tributaries of the Niger are of peculiar magnitude and importance. At no great distance above the point where the delta commences, the Tshadda, or Shary, nearly equal to the main stream, enters, after watering large and fruitful kingdoms, and having formed the theatre of an active navigation. At no great distance above, it receives a smaller tributary, the Coodoonia, which was seen, by Lander, flowing through a fertile and highly cultivated country. Considerably higher is the Cubbie, a large stream, from the city and country of that name; and higher still, the Quarrama, which has passed by Zirmie and Sackatoo. Between this point and Timbuctoo, we have no means of knowing whether any rivers fall into the Niger. The tributary which passes that city is of no great importance; but at the eastern boundary of Bambarra, Park describes the influx from the south of two great streams, the Maniana and Nimma. Those which fall in during the earlier part of the course consist of numerous mountain torrents, which swell the river, without themselves possessing very great importance. All the rivers in the eastern part of Central Africa fall into the great receptacle of the lake Tchad. The principal one is another Shary, the early course of which is unknown. Major Denham saw it at its mouth, where it was about half a mile broad, and flowed at the rate of between two and three miles an hour. Forty miles up, it was seen rolling in great majesty and beauty; but was not traced any higher. The Yeou, rising in the hills of Dull, to the south of Houssa, flows first north and then east through Bornou, till it falls into the western side of the Tchad. Even at the junction it was only about fifty yards broad in the dry season, and, though of great value for fishery, does not afford the means of any extensive trade.

In regard to lakes, the Tchad is greatly pre-eminent, situated in the most central part of the continent, and on the frontier of Bornou. It may be about 200 miles in length and 150 in breadth, and forms thus one of the greatest bodies of fresh water in the world, though it cannot equal the mighty inland seas of Asia. The dimensions are augmented in an extraordinary degree during the rains, when a surface of many miles, usually dry, is laid under water. This inundated tract, when deserted by the waters, is covered with impenetrable thickets, and with rank grass of extraordinary height, and, though unfit for the residence of men, becomes a huge den of wild beasts. The lake contains numerous large islands, some of which are the residence of tribes and even nations. The Dibbie, or Dark Lake, formed by the Niger between Jenné and Timbuctoo, appears not nearly so large, since M. Caillié, in sailing across it, lost sight of land only in one direction. The other lakes yet known to exist in this region are small and local objects, though sometimes very picturesque.

Sect. II.—*Natural Geography.*

Subsect. 1.—*Geology.*

Soudan, or Nigritia, in the central and more elevated districts, affords granite, gneiss, mica slate, clay slate, quartz rock, hornblende rock, limestone, &c. These deposits are variously traversed by greenstone and other trap rocks. At Goree there are fine displays of columnar basalt. Great tracts of flat country extend to the eastern limit, including Soudan, of which the kingdoms are Houssa and Bornou. In the flat and desert regions, salt lakes and natron lakes occur. Beds of rock salt are also met with. The salt is arranged in beds several feet thick: it is mined into large slabs, which are afterwards sawn into blocks for the market. These mines form the riches of the country. Gold is found in different parts of Africa, but most abundantly in this region, which furnishes most of the gold which is sold on the western coast of Africa, as well as that which is brought to Morocco, Fez, Algiers, Cairo, and Alexandria. According to accounts furnished to Mr. Jacob, from the records of the late African Company, the whole quantity of gold brought to England by ships of war, from the year 1808 to 1818, both included, amounted to 81,905 ounces. Of this, in the seven years of war, from 1808 to 1814, there were 51,569 ounces, valued at 205,340*l.*, and in the following four years of peace, 30,569 ounces, valued at 125,380*l.* The eastern coast of Africa, where the Portuguese still retain some settlements for carrying on the slave trade, may be slightly noticed. According to some authors of the sixteenth century, Melinda, Sofala, Mozambique, and other tracts on that side of Africa, afforded large quantities of gold; but their accounts are not to be implicitly relied on. Mr. Salt, the latest traveller, who visited those places in 1809, represents their present supply of gold as very inconsiderable, and has removed much of the delusion which prevailed respecting the ancient produce of that metal. After remarking that the only way by which gold is now procured is by washing the sands of the rivers, he says, "In this manner a considerable quantity is still annually accumulated, though it seems to be rapidly decreasing; for, in 1593, the governor of Mozambique collected for himself and the viceroy of India 100,000 crusades, (a crusade is worth about 2*s.* 6*d.*), and I do not believe that one-third of this amount is now altogether annually produced."

Subsect. 2.—*Botany.*

There are as yet no materials for delineating the Botany of this part of the continent, which probably does not differ much from that of the western coast.

Subsect. 3.—*Zoology.*

The little yet known on the Zoology of Central Africa will scarcely allow of its being treated under a distinct head, particularly as it appears blended with that of Nubia and Abyssinia to the east, Congo and Sierra Leone to the west, and Southern Africa to the south. There are a few quadrupeds, however, stated to inhabit the inland provinces more particularly, and which we shall briefly notice:—

Manis longicauda. Long-tailed Manis.
Phascochærus africanus. Ethiopian Boar.
Camelopardalis antiquorum *Sw.* The Northern Giraffe.
Camelopardalis australis *Sw.* The Southern Giraffe.
Aigocerus grandicornis *Sm.* Long-horned Antelope.
Gazella corinna *Sm.* Corinna Gazelle.
Antilope forfex. Gambian Antelope.
Antilope adenata. Kob Antelope.
Neotragus pygmæa *Sm.* Pygmy Antelope.
Damalis senegalensis *Sm.* Roba Antelope.
Bos Pegasus. Pegasse.

The Manis is analogous to the American Armadilloes, being, like them, entirely covered with an impenetrable coat of mail; this, however, is disposed not in rings, but like the scales of a fish. The Ethiopian Boar is a hideous animal, with long tusks and fleshy protuberances on each side of the head. The Great-horned Antelope is a species deserving the attention of future travellers: its horns, which have only yet been seen in Europe, are erect, with the point bent back, and are no less than two feet and a half long in a straight line. The animal is supposed to inhabit the interior of Western Africa. The Gambian Antelope has been also brought from the same region; its aspect is peculiarly soft and engaging, but it is uncommonly shy. The Pegasse is a species of Buffalo, inhabiting the interior of Congo and Angola, and thus intimated by two of the Catholic missionaries, Galleni and Carl:—"On the road to Loando, in the kingdom of Congo, we saw two Pacasses, roaring like lions, the male and female being always together. They are white, with rufous and black spots, with ears half a yard in length, and the horns straight. When they see human beings they do not flee, nor do they harm, but stand and look on." This vague account would not have deserved notice, had not Major Hamilton Smith detected a drawing of this very rare animal among those which formerly belonged to the great and famous Prince Maurice of Nassau, now in the Berlin library. The Eland is the only antelope on which a quantity of fat is found sufficiently hard to make candles.

The Giraffe will be here noticed, as a genus whose geographic range appears more especially confined to the inland parts of Africa. The ancient writers appear to have understood these quadrupeds much better than the moderns; for Jonston was not only well convinced of their existence, but he figures several which he supposes are distinct species. The new and valuable information on the Giraffe of Northern Africa, published by Rüppell, first led us to suspect that it was, in reality, a distinct species from that of Southern Africa, and this idea has been fully confirmed by a further investigation of the subject, and by verbal information communicated by Mr. Burchell. The Giraffe of Northern Africa (*C. antiquorum* Sw.) was known to the Romans; but the moderns long doubted the existence of such a quadruped, until the Dutch traveller, Colonel Gordon, and the English traveller, Paterson, found the Giraffe of Southern Africa (*C. australis* Sw.) and brought its skin to Europe. In an adult state the latter is said to be sometimes near twenty feet high, and the specimen in the British Museum, brought home by Mr. Burchell, measures seventeen feet and a half. In a state of nature the manners of both, as far as we yet know, are nearly similar. They live in small families, principally in the plains of the interior, where there is occasional herbage or succulent vegetation. Their ordinary food, however, is the leaves of the mimosa trees. Their gait, when walking, is rather stately than awkward: but, as Le Vaillant well observes, it is ridiculous enough to see them trot, for the Giraffe then resembles a limping beast, with the head perched at the extremity of a long neck which never bends, swaying backwards and forwards; the head and neck playing in one piece between the shoulders, as on an axis. Their short horns appear useless as a means of defence, but they kick with prodigious force, and the jerks are so quick, that the eye cannot count them. (*Vail. Trav.* ii. 279.). The disposition of the Northern Giraffe is remarkably gentle; nothing can exceed the mild and beautiful expression of its full dark eye.

Sect. III.—*Historical Geography.*

The history of this extensive region is altogether unknown till the twelfth century, when, during the flourishing period of Arabian literature, the eminent geographers Abulfeda, Edrisi, and others, described the settlements formed by their countrymen on the southern side of the Great Desert. The Arabs appear to have migrated thither in numerous and probably successive colonies. The movement took place chiefly in consequence of the contest between the dynasties of the Abbasides and Ommiades, when the vanquished party sought refuge in the remotest extremities of Africa. Being probably possessed of superior skill in the military art, they easily prevailed over the undisciplined natives, and established powerful states along a river, which they called the Nile of the Negroes, but which appears to be only the Zirmie or Quarrama, a tributary to that which we call the Niger. The principal kingdoms were Ghana (Kano), and Tocrur (Sackatoo), while to the east was the powerful negro state of Kuku (Bornou). The court of Ghana displayed a splendour, derived chiefly from the gold imported from the countries in the south, which appeared dazzling even to those who had witnessed the greatness of Bagdad and Cairo.

Various revolutions, only imperfectly reported to us, appear since that period to have agitated this part of the continent. In general, one powerful chief seems to have aspired at, and in a great measure attained, a supremacy over the others, of which he was speedily deprived by the revolutions to which these turbulent states are liable. In the fourteenth century, Leo Africanus, visiting Timbuctoo, found it in possession of Izchia, a powerful chief from Morocco, who held then the chief sway over Ghana and the principal countries of Central Africa. At the end of the last century, Mr. Lucas understood that Cassina had gained the supreme rule over all the Mussulman states in this quarter. About the beginning of the century, however, Danfodio, chief of the Fellatahs of Sackatoo, not only asserted his independence, but made himself master of all Houssa, then conquered Bornou, and finally extended his dominion westward as far as the Niger. The Fellatah empire, thus founded, has since, however, suffered much dismemberment. The standard of independence was raised in Bornou by a native of Kanem, who, under the title of Sheik el Kanemy, drove out the invader, and assumed the real sway over the country. In the heart of Houssa, Goober, Zegzeg, and other countries, have thrown off the yoke. Yet the Fellatahs, under other chiefs, are extending their conquests to the westward, and have even passed the Niger into Yarriba. Timbuctoo, meantime, has long lost the supremacy it possessed in the days of Leo. It became even tributary to the emperor of Morocco; and though it has shaken off this yoke, the king's dominion does not now extend beyond the city and its immediate vicinity. Bambarra, when visited by Park, was found the most extensive and powerful kingdom on the upper course of the Niger, but it has since been dismembered by Sego Ahmadou, a Foulah chieftain, who has obtained possession of the flourishing city of Jenné, and the surrounding territory.

Sect. IV.—*Political Geography.*

The government in the countries of Central Africa is completely despotic; and in the states the homage paid to rulers and grandees is even more abject and debasing than in any civilised empire. In Eyeo, the greatest lords, when they approach the sovereign, throw themselves flat on their faces, kissing the earth, and piling heaps of dust upon their heads. The sacrifice, on the death of any prince or chief, of his principal officers and favourite wives, though not carried to the same bloody extent as in Ashantee and Dahomey, is considerably prevalent in Eyeo and other native states. Yet the greatness of the monarch is not supported by much of outward pomp and state. Their mansions, usual attire, and daily habits, differ little from those of their meanest subject. The king of Youri, one of the greatest of these potentates, received the English mission in a small square spot, which might be compared to a clean English farm-yard; and his audience of leave was given in an apartment unswept and dirty, with swallows flying about, and a number of naked girls and boys passing and repassing. The king of Wawa, to give his state reception, placed himself in a niche of the city wall. The pomp of the sovereign consists chiefly in the multitude of his wives; and it was the boast of the king of Eyeo that his queens, linked hand-in-hand, would reach from one end of the kingdom to the other. These ladies, however, are in a very different situation from that which in Europe is suggested by the word queen: slave would be the more appropriate, so varied are the services of every description exacted from them. They act as body-guards, perform the most menial offices, and are seen in every part of the kingdom, carrying on their heads heavy burdens from place to place, favoured only with an exemption from tolls. The Mussulman princes maintain courts more resembling those of Northern Africa, with fewer wives, and those more secluded, preserving greater pomp and exercising equal power, but not exacting the same degrading testimonies of homage. We may observe, moreover, that each city enjoys a species of municipal government, which, particularly in some parts of Bambarra, has even somewhat of a republican constitution, the mansa or governor being elected by the body of the people.

The revenue of these princes does not appear to equal their power, or even to be derived from any regular source, if we except the dues exacted from the caravans. They enrich themselves by presents, and thus particularly appear to accumulate such an extravagant number of wives. They also carry on a good deal of traffic, and scruple not to employ both power and stratagem in turning it to their own advantage. Lander scarcely met one prince from whom he did not experience every species of roguery and extortion. The treasures thus acquired consist chiefly in articles of show and ornament, which are piled in huge heaps for the sake of boastful exhibition. Their peculiar delight is to display these to important strangers, as a child does his toys and gewgaws.

The armies of these princes consist chiefly of turbulent militia, taking the field on the summons of the prince, and supporting themselves by plundering the country through which they pass. The cavalry of Bornou and Begharmi, have a very martial appearance, the horses being small and active, and, as well as their riders, completely enveloped in chain and sometimes in plate armour. Unfortunately they want the power of standing any brisk charge from an enemy, but on every such occasion take precipitately to flight. They are serviceable only when the victory has been decided, and all the enemies' backs are turned, when they were very active in cutting down and plundering the fugitives. The Kanemboo spearmen (*fig.* 868.), organised by the present sheik of Bornou, form the most regular and effective force in interior Africa. They march by tribes, almost naked, with only a skin round their waist, their only arms being a long shield with which they ward off the arrows of the enemy, and a spear with which they press forward to charge him; yet they have much of the organization of a regular army, maintaining in front a chain of piquets, and the sentinels passing the war-cry along the line. The Fellatah archers, and those of a very rude people called the Mungas, fighting with poisoned arrows, have shown themselves very formidable; yet Lander saw the army of Sackatoo, 50,000 or 60,000 strong, employed in the siege of Coonia, a rebel city; but only a few chiefs, dressed in quilted armour, made some display of valour; the others, upon being struck by a false alarm, took precipitately to flight, upsetting every thing in their way, most of the men and animals tumbling over each other, and rushing together to save what they could by flight. A camp, as elsewhere seen by Clapperton, was like a village, composed of a number of huts, resembling bee-hives arranged in regular streets; and was "filled with weavers, tailors, women spinning cotton, others reeling off; some selling foofoo and accassons, others selling yams and paste; little markets at every green tree, holy men counting their beads, and dissolute slaves drinking roa bum." The musket is almost wholly unknown in the wars of those nations. The greatest monarchs have only a few, which they keep as objects of pride and curiosity. The Arab caravan followers, armed with those weapons, and possessing a certain degree of discipline, are superior to thousands of their opponents, and often decide the battle between the mightiest monarchs.

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Kanemboo Spearman.

Sect. V.—*Productive Industry.*

Almost the whole of this extensive region may rank with the finest and most fruitful on the surface of the globe. Though placed nearly beneath the line, and scorched by the intensest rays of a tropical sun, it suffers from this cause less than almost any other country in the same situation. The great chain of mountains by which it is traversed in some degree tempers the severity of the heat, and, by the numerous streams which they pour down, affords throughout the means of irrigation. Even their declivities, sometimes to the very summit, are covered with copious harvests. Thus nearly the whole territory is fitted for the productions of the tropical, and, through the variety of surface, occasionally even of the temperate, zone.

Agriculture is practised over the whole of Central Africa, though not by any elaborate or scientific processes. The plough appears never to have passed the desert; the only instrument for turning up the ground being the hoe, which does little more than scratch the surface; yet this slight tillage, on grounds moistened by inundation or artificial watering, is sufficient to produce abundant crops. It has even been doubted whether a deep furrow would not be injurious, by laying the ground too open to the influences of the tropical sun. Considerable pains are bestowed upon irrigating the grounds; and in Houssa the grain is stored in large granaries raised on poles, as a security from the insects. Watch is diligently kept to scare away the numerous birds which would devour the grain. In Bornou, indeed, the imperfect industry of the people produces only gussub, a species of millet, which, instead of being formed into bread, is merely boiled into a paste. So supine is their culture, that in this fine climate they do not rear a vegetable of any description, except a few onions; nor a fruit except limes, and those only in the garden of the sheik. In Houssa, however, two crops of wheat are raised in the year, and the markets are abundantly supplied with fruits and vegetables. Rice is produced copiously on the inundated banks of the Niger, particularly in the kingdom of Youri. Cotton, the material of the staple and universal manufacture, is everywhere grown, and the beautiful and valuable fabrics woven from it, afford a presumption in favour of its quality. Indigo for dyeing is produced in great abundance and excellence. Oxen are reared in great numbers, and often of very valuable breeds, but almost exclusively by the Arabs and Fellatahs; and there appears a presumption that they have been imported by these races from Northern Africa, since in the districts purely negro, the domestic animals consist only of sheep, goats, pigs, and poultry, reared often beneath the same roof with their owners. The forests and the inundated swamps on the great rivers abound with wild animals,—the lion, the elephant, the leopard, the hyena,—which commit formidable ravages; yet their spoils form frequently objects of trade, particularly the tusk of the elephant, composing the valuable substance of ivory. The swarms of insects are tormenting, and sometimes even dangerous; but the bees afford an abundant supply of honey, the chief dietetic luxury. Gold is extracted in considerable abundance from the sands of almost all the streams that descend from the western part of the great mountain chain.

Manufactures are not numerous, but carried on with considerable skill and activity. The most important, by far, is that of cotton cloth, which is said to be beautifully woven, and skilfully dyed with fine indigo. This appears to be quite a negro manufacture, being carried to the greatest perfection in countries occupied exclusively by that people; Loggun in the east, and Nyffé westward on the shores of the Niger. The manufactures in Houssa are chiefly conducted by slaves from the latter country. Denham describes the people of Loggun as steeping their cloth thrice in indigo, then laying it on the trunk of a large tree, and beating it with wooden mallets, till it acquires the most brilliant gloss. Mats, being universally used to sit and sleep upon, form also an extensive branch of manufacture, which is carried to peculiar perfection at Rabba in Nyffé. The gold found along the western part of the chain of mountains is worked with considerable skill into rings and ornaments.

Commerce, throughout this region, is carried on with considerable activity, though in modes somewhat peculiar. Maritime trade is precluded by its situation, far distant from any coast. Even river navigation is not practised with much diligence, unless on the Niger, and that chiefly on its lower course, as it approaches the sea. Wagons are unknown, and would perhaps be too cumbrous for the rude tracts through which they would have to be conveyed. Single travellers, also, could not proceed with safety through routes of such length, many parts of which are beset by predatory tribes. Commodities are conveyed by large troops, sometimes resembling little armies, called caravans, kafilas, or coffles. Those which pass between Northern and Central Africa, across the immense expanse of the desert, employ camels, *whose patience of thirst, and soft and elastic hoofs, almost exclusively fit them for travelling over this wide surface of sand. In the rugged and mountainous tracts, burdens are chiefly conveyed by means of asses; but in the great fertile plains of Houssa and Eyeo, the human head is the most frequent vehicle: those of females, not excepting the wives of* the great men, and even of the monarch, are decidedly preferred. These fair bearers have been seen carrying with alacrity loads which it required the labour of three men to place on their heads. The African caravan merchant is a very different person from him who, while his vessels are traversing the ocean, remains seated in a snug counting-house, reckoning the silent accumulation of his profits: he must accompany his investments to their remotest destination, through desolate tracts, the domain of warlike and ferocious tribes. Passing through regions which own no law but that of the strongest, he is obliged to arm himself and his followers, and to defend as a warrior what he has earned as a merchant. Unhappily, he is often tempted to imitate those with whom he contends, and to consider plunder as a cheap and even not dishonourable mode of completing his assortment of goods. He holds himself thus equally ready, according to circumstances, to act as thief, pedlar, merchant, prince, or warrior. His band being armed with muskets, and forming a little standing army, are truly formidable to the nations of interior Africa. They form there a sort of state within the state, and are at once courted and dreaded even by great sovereigns. As commodities, in crossing the desert, rise in value from 150 to 500 per cent., and sometimes are procured by mere violence, the merchant who passes safely through a series of such adventures acquires immense wealth, and can often rival the pomp of princes. The caravans which traverse on foot the negro countries in the west, and which consist in a great measure of females, though often very noisy, and addicted to convivial and even dissolute habits, bear by no means the same warlike character. The female traffickers act not merely in a servile capacity as bearers, but carry on extensive transactions, and acquire considerable property.

The commodities conveyed across the desert, and exposed for sale in the markets of Central Africa, are chiefly of a showy and ornamental kind: coarse woollen cloths of gaudy colours, and red silk thread to be woven into their cotton robes; coarse French writing paper, beads, rings, and ornaments made of silver, glass, coral, amber, and even pewter; and with regard to the material of these articles, imposition is very easily practised. Scissors and knives, with other iron implements, and, still more, arms, are in constant demand. A welcome is even given to the gaudy cast-off dresses of the Mamelukes, and to the old sword-blades of the knights of Malta. Salt, in large quantities, is brought from pits in the interior of the desert; and goora or kolla nuts,—a favourite luxury, which is even called the African coffee,—are transported from the western to the eastern parts of this region. The returns made to Northern Africa from Timbuctoo consist partly of gold and ivory; but slaves are the chief article sent from thence, and almost the sole one from Houssa and Bornou. These unfortunate victims are caught by armed expeditions in the mountainous regions to the south, the inhabitants of which, being mostly pagan, are considered by orthodox Mussulmans as lawful prey. These inroads are undertaken not by private marauders, but by powerful chiefs, and even by the greatest princes. On occasion of the marriage of the sheik of Bornou with the daughter of the sultan of Mandara, a combined expedition was sent against the Musgow nation, which, after a desperate struggle, brought in 3000 slaves; and the nuptials were celebrated with barbaric pomp, furnished out of the tears and captivity of so many victims.

Neither roads, canals, nor other modes of improving the interior communications, are employed in this region. The routes are merely spaces left vacant, and beaten by the continued tread of men and animals. They are often encumbered by swamps, trees fallen across, and even by the large nests of white ants. Where they are crossed by broad rivers or lakes, a large raft is placed on the bank, by which, not without some difficulty and danger, the caravans are ferried over.

Sect. VI.—*Civil and Social State.*

The state of society, though it has not passed the limit of what must be denominated barbarous, has yet made a greater approach towards civilisation than among any other African nations, except those which border on the Mediterranean. Nor is this solely owing to the migrations from that region, though these have been numerous, and a great part of the population is derived from them. The states purely negro, which have imbibed no portion of Arabic religion and literature, have made nearly an equal advance in arts and improvements. The total absence, however, of alphabetic writing, and of any written or even painted records, seems to place these last decidedly beneath the least improved among the great nations of the Asiatic continent.

In the moral existence of the African there are many very dark features. War is carried on with all the ferocity of the most barbarous nations; many tracts, formerly flourishing, were seen, by the recent travellers, reduced by it to a state of entire desolation. Another deep blot is the extensive prevalence of robbery, practised not merely by desperate and outlawed individuals, but as the great national and state concern of almost every community, great and small. In other parts of the world, robbery is carried on by the poor against the rich: in Central Africa, it is equally or more by the rich against the poor; for there, he who is destitute of every thing else, has at least himself, who, converted into a slave, forms the richest booty that can tempt the plunderer. The treatment of the numerous bands of captives who are conveyed across the desert is also attended with many circumstances of remorseless cruelty. Yet it must not be concluded that an unbroken gloom hangs over the moral condition of Africa. There seems even to be something peculiarly amiable and engaging in the social feelings and habits there prevalent. Warmth of friendship, hospitality, and humanity, are virtues of which Park and other recent travellers have given many shining instances. They are furnished even by Moslems, notwithstanding the hostile feelings cherished by a bigoted creed. When Major Denham was fleeing from battle in a naked and miserable state, a young African prince pulled off his own trousers, and bestowed them upon him. Both Clapperton and Lander paint the Fellatah shepherdesses in the most engaging colours; describing their dress as arranged with taste, their hair braided with peculiar neatness, their manners artless and simple, their conversation at once modest and full of kindness.

In regard to religion, the nations of this region are pretty equally divided between two systems, the pagan and Mahometan; one native, the other introduced by migration and intercourse from Northern Africa. The Niger, in a general sense, forms the boundary of Moslem influence, which has, however, penetrated at several points beyond that river. The Fellatahs, who form the ruling people in the fine territory of Houssa, appear to have migrated from Egypt and Barbary, bringing with them the Mahometan religion. The people of Bornou, and of the adjacent countries of Mandara and Begharmi, have been converted to this faith, and profess it with a still more bigoted zeal. The Christian travellers were considered by them not only as doomed to perdition, but as destitute of any claim to the rights and courtesies of humanity. One fixed article of belief among all these nations is, that they may lawfully reduce to slavery all the *kerdies*, or pagans, who people the southern mountain districts. In other respects, they do not strictly conform to the recluse and contracted habits of life generally prevailing among nations of this profession: the females are not closely immured; intoxicating liquors are not rigidly abstained from; and various amusements which it proscribes are indulged in without scruple. The pagan tribes are free from this intolerant spirit; but their superstition is mean and puerile in the extreme, consisting in implicit reliance upon fetiches, charms, and amulets of the most ridiculous nature. The barbarous system, also, of human sacrifice, though prompted by the extravagant veneration in which their great men are held, has evidently an intimate connection with superstitious impressions.

Learning, throughout Central Africa, appears in a very depressed state. The reading even of the Koran is confined to a very few of the great *fighis*, or doctors. Its verses are chiefly employed as amulets to secure triumph over enemies, or success in the different pursuits of life. Its contents are frequently imbibed by writing the characters with a black substance on a wooden board, washing them off, and drinking the liquid. The Arabs, who possess somewhat greater information, often practise most scandalous impositions on the credulity of the negroes. The princes, both in Bornou and Houssa, show a disposition to enquire into and cultivate the arts and sciences; but they have no channel of information, unless from Barbary, where these pursuits are in an almost equally depressed state. Sultan Bello and his minister had each a library, but no communication has been made to us as to the contents of either. Yet extemporary poetry, sung by the composers, is repeated at almost all the African courts. Singing men and singing women are constant attendants on the chiefs and caboceers; and their songs, though conceived probably in terms of the grossest flattery, appear to contain a large portion of national history. The Arab caravan drivers also cheer their long expeditions by reciting poems, where the talent displayed is often considerable, and is derived less, probably, from any acquired literature, than from the excited state of passion and feeling, which arises in a life of wild and wandering adventure. In the most improved of the native states, there appears to exist a considerable taste for sculpture, and in their edifices, the doors, with the other ornamental parts, are adorned with pillars, on which are carved the exploits of their warriors, combined with the various movements of favourite animals.

The amusements of these nations are not extremely refined. Wrestling and gaming are favourites in Bornou. The wrestling exhibitions are made by slaves captured from the neighbouring and hostile countries of Begharmi and Musgowy. The masters place their pride in the victories achieved by these slaves, cheering them during the combat, and often on a favourable issue throwing to them valuable robes and other presents. A powerful wrestling slave will sell for 100 dollars; but a defeat, the disgrace of which is never forgotten, causes him to fall at once to four or five. Ladies, also, even of rank, delight in a strange exercise, where they beat particular parts of the body against each other with such force, that the vanquished party is thrown flat on the ground. The principal game, and one skilfully played, is a species of rude chess, carried on by beans, with holes made in the sand. At Kano, the most flourishing of the cities of Houssa, boxing is practised with some science, and such excessive fury, that a thorough set-to not unfrequently terminates in the death of one of the combatants. The performers exhibit for pay; and when Captain Clapperton hired a party, the whole population, male and female, quitted their occupations, and thronged to view their favourite spectacle. In Eyeo, there is a species of dramatic exhibition, consisting, however, merely in a display of mimicry, tricks, and buffoonery. Persons enclosed in sacks pursue each other with surprising agility; out of one comes a representative of the boa constrictor, who exhibits an excellent imitation of the movements of that animal; there was also exhibited to Captain Clapperton the "white devil," a caricature of the European; a thin figure, painted white, shivering with cold, and performing very naturally a variety of movements which appear strange in the eye of an African. We may conclude with dancing, which, over all native Africa, is the standing and universal amusement, continued often for whole nights, and practised in every form, from slow movements resembling the stately minuet, to curvets that might rival those of Grimaldi. Even the kings place a peculiar glory in their skilful performance of this exercise; to be an expert dancer is thought almost as flattering as to be a successful warrior; and even those monarchs, whose advanced age disqualifies them from any real eminence in this performance, strain every nerve, by elaborate displays of it, to extort the flattery of their subjects.

Sect. VII.—*Local Geography.*

The eastern part of this territory, comprising the kingdoms of Bornou, Mandara, Loggun, and Begharmi, will be most convenient for commencing our survey of its local divisions.

Bornou, one of the most powerful kingdoms of Central Africa, extends about 200 miles in every direction, on the westward of the great inland sea of the Tchad. The extent of that sea, and the variations on its surface, have been already described. When, in consequence of the rains, its waters swell, and overspread the large encumbered tract abandoned during the dry season, the numerous bands of wild animals which it harboured, elephants, lions, panthers, and hyenas, are obliged to quit their cover, and seek their prey among the habitations of men. At this disastrous period, travellers, and the slaves employed in watching the corn fields, often fall victims to their fury; the hyenas have even been known to force their way into walled towns, and devour the herds that had been driven into them for shelter.

With the exception of this peculiar district, Bornou, watered by the tropical rains, and often partially inundated, is a very fertile country. The soil, after being merely scratched with a hoe by the female slaves, and the seed scattered, rather than sown, yields very considerable crops. Cities, containing from 10,000 to 30,000 inhabitants, and many walled towns, rise along the shores of the lake. The markets present a most crowded scene, the principal one at Angornou attracting sometimes 100,000 people. Yet the nation is remarkably deficient, not only in refined and intellectual pursuits, but in the humblest of the useful arts. Instead of wheat or rice, they raise gussub, a species of small grain, which, being boiled to a paste, and having melted fat poured over it, is in Bornou considered the most delicate of dishes. Even iron tools, notwithstanding their value to a martial people, are handled in the most clumsy manner. The only fabric in which they have attained any kind of excellence is that of cotton cloth dyed blue with their fine indigo, the tobes or pieces of which form the current coin of the realm; yet even in this staple they do not equal the natives of Loggun and Nyffé. They have, however, the absolute necessaries of life in abundance. Numerous herds of cattle are bred by Arab tribes, who have transported into Bornou all their pastoral habits. The most numerous are the Shouaas, who in the towns are described as deceitful, arrogant, pretended fortune-tellers, and greatly resembling gypsies; but in the country display greater simplicity of manners. Major Denham describes the daughter of a rich Shouaa loaded with ornaments of amber, silver rings, and coral, her hair streaming with fat, a black rim of kohol, at least an inch wide, round each of her eyes. She sits astride on a bullock, over which carpets and tobes have been spread, guides him by the nose, and tortures his sluggish form into something like caperings and curvetings. The Bornouese are characterised by simplicity, good nature, and ugliness. They have in excess the thick lips, face sloping backwards, and other characteristics of the negro. The principle of speculative curiosity is one to which they are not only strangers, but which they cannot at all conceive as swaying the human mind; and the recent travellers could by no means obtain credit for this motive in visiting Africa.

The government of Bornou is absolute; but when the English mission lately visited the country, they found it in a somewhat singular political situation. The sheik, surnamed El Kanemy, who by his valour had rescued the kingdom from Fellatah invasion, possessed all the real authority, which he exercised with justice and vigour; but he found it prudent to confer the ostensible dignity of sultan on a member of the ancient royal family, who lived in empty pomp at New Bornou. There is probably no court of which the taste is so absurd, grotesque, or preposterous. The primary requisite for a fine gentleman and a courtier is a huge belly; and where feeding and cramming will not produce this beauty in sufficient perfection, the part is swelled out by stuffing and cushioning. This unwieldy bulk is then covered with ten or twelve successive robes of rich and varied materials. Fold after fold is wrapped round the head, till only a small part of the face, and that all on one side, can be descried. Numerous amulets, enclosed in green leather cases, envelope their clothes, horses, and arms. Surrounded by a train of such attendants, the sultan of Bornou received the British mission in a cage or crib, barely capable of containing his own person (*fig.* 868.). Thus attired, however, the Bornou cavalry take the field; but they are there totally inefficient. Indeed, the sultan, who ought to be still more protuberant and encumbered than the rest, is subject to the convenient necessity of never fighting; but if his army is defeated, and he cannot escape by flight, he seats himself in state beneath a tree, and quietly awaits the stroke of death. Lander heard it reported at Boussa, that the sheik had recently been put to death by the sultan, who had resumed the supreme sway.

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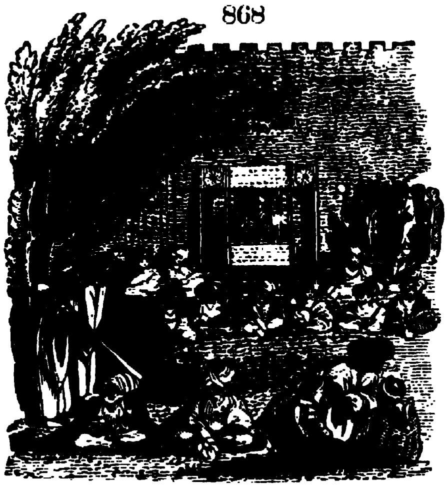

Audience of the Sultan of Bornou.

The towns of Bornou are considerable, though not of the first magnitude. New Bornou, the present residence of the sultan, is said not to contain more than 10,000 people; and Kouka, where the sheik kept his court, is still smaller. Angornou is the largest place in the kingdom, containing at least 30,000 people, and, during the crowded markets held there, often from 80,000 to 100,000 are assembled. All these are in the heart of the kingdom, on the western bank of the Tchad. Angala, on the southern or Begharmi frontier, and Woodie on that of Kanem, are also considerable: at the latter, the caravans are made to stop till permission to proceed is obtained from the sovereign. Kanem, in the north, is a ruder district, partaking somewhat of the character of the bordering desert; but its inhabitants are peculiarly brave. Lari, the capital, is a town of 2000 inhabitants, consisting of clusters of rush-huts, in the shape of well-thatched cornstacks. The largest cities, however, appear to have been formerly situated on the lower course of the Yeou; but they have been entirely destroyed, and the whole country laid waste, by the desolating inroad of the Fellatahs. The ruins of Old Bornou were seen covering a space of five or six square miles; and Gambarou, the former residence of royalty, displayed in its ruined edifices a degree of elegance not observable in any of the modern capitals. The territory round these cities, formerly in a state of the highest cultivation, is now covered with labyrinths of thickets, and the meadows overgrown with wild plants. It contains only a few scattered villages, whose inhabitants live in constant dread from the predatory inroads of the Tuaricks. Farther to the west, beyond a large town called Kabshary, are the almost savage tribe of Mungas, who fight with poisoned arrows, and yield a reluctant submission to the dominion of Bornou.

Mandara, situated to the south of Bornou, consists of a fine valley, containing eight large towns, the principal of which is Mora. The whole country, and even the capital, are overlooked by the great central range of the Mountains of the Moon, which to the southward of this territory appear to attain their loftiest height. They are inhabited by numerous and barbarous races, comprehended, by the Mandaras, under the appellation of kerdies, or pagans, and thence considered as lawful prey. These people paint their bodies, wrap themselves in the skins of wild beasts, and subsist chiefly on fruits, honey, and the fish drawn from large lakes. The Musgow, the most distant and rudest of those races, were seen mounted on little fiery steeds, covered only with the skin of a goat or leopard, and having round their neck long strings of the teeth of their enemies. Dirkullah, a part of this mountain territory, is occupied by Fellatahs, who have their villages strongly fortified, and fight desperately with poisoned arrows, by which they once put to flight the whole force of Bornou and Mandara, though aided by a numerous and well-armed body of Arabs.

Loggun, situated immediately to the south of the lake Tchad, and watered by the lower course of the river Shary, which falls into that great receptacle, appears to be one of the most improved and industrious countries in all Africa. The Loggunese, amid the furious warfare waged by the surrounding states, have, by a skilful neutrality, maintained themselves in peace. They work steadily and skilfully at the loom, an occupation elsewhere abandoned to slaves. Their cloth, after being thrice steeped in a dye of excellent indigo, receives a brilliant gloss by being placed on the trunk of a large tree, and beaten with wooden mallets. The tobes thus fabricated are much superior to those of Bornou, and only equalled in Nyffé. The people rank also above their neighbours, in having a coinage, though rudely made of iron, somewhat in the form of a horse-shoe. Provisions are abundant; the banks of the river are bordered with fine woods, and a profusion of variously tinted aromatic plants. *The inhabitants, however, suffer cruelly from the multitude of tormenting insects. "Flies, bees, and mosquitoes, with immense black toads, vie with each other." It is impossible to stir out for two or three hours at mid-day, without the hazard of serious illness. Some seek a protection by building one house within another; others by kindling a fire of* wet straw, and sitting in the smoke; but this remedy seems worse than the evil. The ladies of Loggun (*fig.* 870.) are described as the handsomest and most intelligent of the negro race, with a lively and agreeable expression and engaging manners. They are by no means distinguished, however, by those virtues which form the ornament of their sex, and, in particular, used the utmost dexterity in snatching from Major Denham every thing they could reach, searching even the pockets of his trousers, and, when detected, treating the whole as a jest. Loggun, the capital, is a handsome town, with spacious streets, finely situated on the Shary, about forty miles above its entrance into the lake.

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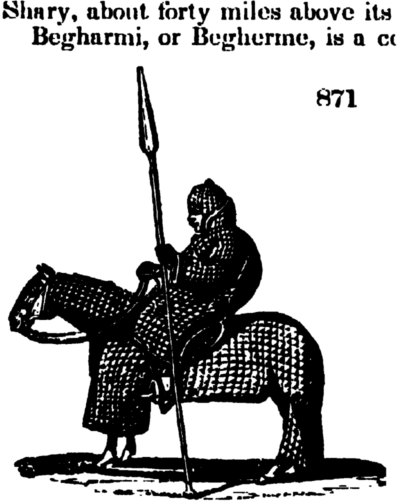
Ladies of Loggun.

Begharmi, or Begherme, is a considerable country, to the south-east of the lake Tchad. The people, who are stout and warlike, wage almost continual war with Bornou, which boasts of having subjected them; but they always find a retreat beyond a considerable river, which flows through their country, whence they return and regain possession of their territory. Their chief force consists in mounted lancers (*fig.* 871.), which, with their horses, are cased still more completely in iron mail than those of Bornou; but they do not in the field display any higher degree of courage.

871



Lancers of Begharmi.

The islands in the lake Tchad, which are numerous, and many of them large, are inhabited by tribes that have made themselves formidable to the surrounding countries. The Biddomah, occupying the eastern quarter, have a fleet of a thousand large canoes, which they employ entirely in piratical inroads. They maintain the doctrine that their deity left them without grain or cattle; instead of which, he bestowed strength and cunning to snatch those good things from others who possessed them. This destination they zealously fulfil; there being not a spot round this wide expanse of water which is for a moment secure from their attack, the vicinity of the capital not excepted. They carry off many of the people as slaves, but treat them well, and even bestow wives upon them. No attempt to check their ravages seems made by the most powerful of the Bornou sovereigns, who merely say, "The waters are theirs: what can we do?" The La Salas, a pastoral people, inhabit a number of small verdant islands near the southern quarter, separated by channels so shallow, that those acquainted with them can ride on horseback from one to the other. These islands are covered with rich pastures and numerous herds.

Houssa is an extensive territory in the most central part of Africa, reaching from the upper course of the Yeou nearly west to the Niger; but its boundaries both on the north and south seem to be yet undecided. Although it is ascertained not to reach the main stream of the Quorra or Niger, it is yet well watered by the river Quarrama or Zirmie, which, with several tributaries, flows westward to join the Quorra. On the eastern border, also, it is traversed by the upper course of the Yeou, and on the southern by the Shary or Tshadda, which also falls into the Niger. This region derives its social character from the Fellatahs, descended apparently from the Arabs, who migrated thither in large bodies in the tenth and eleventh centuries, and have ever since continued to be the ruling people. It appears to be more elevated, and the climate less sultry, than that either of Bornou or the countries on the Niger; travellers have even occasionally suffered from cold. The face of the country exhibits evident marks of superior cultivation and a superior people. The fields are covered with large crops of wheat, two of which are annually produced, and the grain is stored in large granaries raised on poles as a security from insects. Irrigation is practised with diligence. The grain is made into bread, and the markets are well supplied with fruits and vegetables. The Moslem faith is professed, having the iniquitous right founded upon it, of carrying into bondage the southern tribes of kerdies, or infidels; yet the same bigoted spirit does not prevail, and the Arabs even allege that the Fellatahs are not true Moslems. Their commercial habits, and intercourse with the negro nations to the westward, are probably the chief causes which introduce this more liberal train of ideas.

Soccatoo, or Sackatoo, probably the Tocrur of the Arabians, situated nearly at the western extremity of Houssa, is at present the ruling country over that region. The territory appears to be fertile and populous, and its capital the largest city in interior Africa. The houses are built closer than usual, and more regularly laid out in streets. The place is surrounded by a wall between twenty and thirty feet high, with twelve gates, always shut at sunset. The dwellings of the principal inhabitants consist of clusters of cottages, and of houses built with flat roofs in the Moorish style, enclosed by high walls. There are two mosques, one of which, unfinished when Clapperton resided there, was 800 feet in length, supported by wooden pillars plastered with clay, and richly ornamented. The palace, as usual, forms a sort of enclosed town, with an open quadrangle in front; while a painted and ornamented cottage contains the hall of audience. Of late the residence of the court having been transferred to the neighbouring town of Magaria, Sackatoo is likely to experience a decline.

The countries of Goober and Zamfra, or Zanfara, are of a ruder character, inhabited by a warlike race, who have sometimes ruled over Houssa, and are at present in open rebellion against the power of Sackatoo. Even the high road between that city and Kano is continually infested by them. The merchants venture to pass it only in numerous and close bodies, every one striving to be foremost, and exclaiming, "Woe to the wretch that falls behind, he will be sure to meet an unhappy end at the hands of the Gooberites!" In 1829, Coonia, the strongly fortified capital of Goober, repulsed with loss the whole military force of Houssa, amounting to 50,000 or 60,000 men. Zirmie, the capital of Zamfra, is represented as forming a sort of outlawed city, where runaway slaves find protection, and the inhabitants are esteemed the greatest rogues in all Houssa.

Kano, though declined from its ancient greatness, is still the centre of commerce and civilisation in interior Africa; yet it is built in a very scattered manner, occupying only about a fourth of the circuit of fifteen miles enclosed by its walls. The inhabited part is divided into two by a large morass, dry during a part of the year, at which period is held a great market, the most crowded and best regulated in Africa. It is under the superintendence of a sheik, who has even the exorbitant power of fixing the prices. Such is the confidence established, that packets of goods are very commonly carried away without being opened; and if any fraud is discovered, the packet is sent back, and the dylala, or broker, is compelled to procure restitution. The market is crowded from sunrise to sunset every day, not excepting Friday, the Mahometan sabbath. The slaves, who constitute the staple commodity, have a special market, composed of two long ranges of sheds, one for males, and the other for females. The poor creatures, decked out for the purpose, are seated in rows, and are nicely scrutinised by the purchaser, who inspects the tongue, teeth, eyes, and limbs, causing them to cough, and move in different directions, so that any defect in their persons may become apparent. The current coin in traffic consists of the small shells called cowries, 480 of which are worth only a shilling, so that the task of counting them is laborious. Kano is supposed to contain 30,000 or 40,000 inhabitants.

Kashna, or Kassina, to the north of Kano, is a considerable kingdom, which at no distant period held the supremacy over Houssa, and has even lately shaken off the yoke of Sackatoo. Its walls, like those of Kano, are of immense circuit; but the inhabited part does not amount to above a tenth of the enclosed space. It is still, however, the seat of a considerable trade with the desert, with Timbuctoo, and with caravans coming across the desert by the way of Ghadamis and Tuat.

To the south of Sackatoo and Kano is the country of Zegzeg, one of the finest in all Africa. It is covered with plentiful crops and rich pastures, yields particularly good rice, and is beautifully variegated with hill and dale, like the finest parts of England. Zaria, the capital, is like an enclosed district, occupying a great extent of ground, which comprises even woods and corn-fields; the population is estimated at about 50,000. The country to the south of Zegzeg, though diversified by rising grounds, is still fertile and well cultivated, containing a number of considerable towns. Cuttup, a compound of 500 villages, or rather clusters of houses covering a beautiful plain, forms the market for a great extent of country. Farther south, however, there is stated to be a rugged and mountainous region inhabited by the Yam-yams, a savage race, represented as cannibals, and who, some time ago, had killed and eaten a whole caravan. The same people are mentioned, six centuries ago, by Edrisi, as bearing the same character. Dunrora is situated in a country fertile, though rocky; and about half a day's journey from it is Jacoba, described as a large city on the river Shary; while farther to the east, on the same river, is stated to be another great city, Adamowa: but here our knowledge in this direction terminates.

The western tracts of Houssa do not contain any cities of great magnitude. Yet the late travellers mention Bershee, probably the Berissa of Edrisi; Katunga, surrounded by a fine country; Zangeia, picturesquely situated amid rocky hills; and Girkwa, on a river of the same name, tributary to the Yeou. Katagoom, capital of a province once included in Bornou, contains 8000 inhabitants; and in the same district is Sansan, a large market-place, divided into three distinct towns. To the north is a rude tract, inhabited by the Bedees, a fierce, independent, pagan race, between whom and the Moslems a constant war is waged.

The countries on the lower course of the Niger form an extensive and important part of Central Africa. Being copiously watered, and in many parts liable to temporary inundation, they are endowed with profuse natural fertility, yielding rice and other valuable species of grain in abundance; though, in approaching the sea, the ground becomes swampy, and overgrown with dense forests. A negro population, with its original habits and superstitions, generally fills this region; but the Fellatahs are making rapid encroachments; and several of the states have been converted, though in a very superficial manner, to the Moslem faith. The kings hold generally an absolute though mild sway; their splendour consists chiefly in the multitude of their wives, who perform all menial functions, and even act as body-guards; the royal exactions are chiefly from travellers and merchants, out of whom they draw as much as possible, both in the way of presents and trade. We shall begin from the northern or higher region of the river.

Youri, or Yaoori, consists of a very fertile plain, partly overflowed by the Niger, and thus rendered peculiarly fitted for the production of rice. It is even cultivated with great diligence, though chiefly by an oppressed, half servile, but patient and industrious race, called the Cumbrie. Youri is a very large city: its walls of wood, rudely strengthened with plates of iron, enclose a circuit of twenty or thirty miles; but this space is covered to a great extent with pastures and corn-fields, among which clusters of huts are interspersed. The people, being numerous and brave, have repelled every attempt by the Fellatahs to subdue them. The king maintains a higher state than prevails in the neighbouring courts, yet both the structure and the accommodations of his palace would, in Europe, be considered extremely mean. This prince has incurred deep dishonour by the attack on Park, which terminated in the death of that celebrated traveller; and his conduct to Clapperton and Lander was far from praiseworthy. Below Youri the navigation of the Niger is obstructed by formidable cataracts, though it is passable during the rainy season for vessels of some magnitude.

The kingdom of Boussa, immediately below Youri, was represented by the first accounts as forming one, and even the chief, of the states of a more extensive region called Borgoo; but Lander learned, in his last expedition, that neither it nor Wawa, over which it has a certain supremacy, are included in that region. Boussa is a considerable town, capital of a fertile and well cultivated country of the same name. It was at one time occupied by the Fellatahs; but they were afterwards expelled. The Niger, immediately above and below Boussa, presents a magnificent body of water; in passing that city, it is obstructed by those rocks and straits in which Park was intercepted and perished. A little below Boussa is the ferry of Comie, which forms the principal passage for the caravans on their way from Houssa to the coast.

Wawa, the capital of a small dependent kingdom, is situated in a very fertile country, particularly celebrated for producing excellent yams. The town, supposed to contain 18,000 inhabitants, is also enriched by the constant passage of the Houssa caravans. The people and merchants take advantage of their wealth, to indulge in feasting and jollity, and drink harder than in almost any other city of Africa. During the whole night, the town resounds with the song, the dance, the castanet, and the Arabian guitar.

Borgoo, forming a cluster of states to the west and north-west of Boussa and Wawa, presents an aspect entirely different. It is composed, in a great measure, of rugged mountain tracts, though interspersed with fertile and beautiful valleys. The elevated districts are covered with extensive forests, crowded with wild animals of every description, and infested with numerous bands of robbers. Kiama, the only part of Borgoo visited by English travellers, is inhabited by a people proud, courageous, spirited, delighting in martial exercises, and warm both in their resentments and attachments. The king professes the Mahometan religion; yet his attachment to paganism is displayed by numerous fetiches and uncouth figures, stationed, as guardian powers, at the entrances and along the walls of his houses. Here the English travellers saw a great Mahometan festival, followed by a horse-race. The animals were gaily caparisoned, with strings of brass bells on their heads, pieces of red cloth, silk and cotton tassels, and little charms in coloured cases. The ladies, not subjected to the usual Moslem seclusion, appeared gaily adorned in coarse Manchester cloths, and bed-furniture of glaring and gaudy patterns, for which a high price had been paid. The palace, or rather hut, in which the king resides, is adorned with good prints of George IV., the Duke of Wellington, and other eminent British characters. Niki, however, is considered the chief of the states of Borgoo, its capital the largest, and its territory the most improved; it holds also a certain sway over the others. They are comparatively poor, with the exception of Loogoo, enriched by the commerce between Gonjah and the interior. Pandi has shaken off all dependence upon Niki, but has used its liberty only to organise a destructive system of plunder against the neighbouring states.

The banks of the Niger, below Boussa, are occupied by two great and flourishing kingdoms: Eyeo on the west, and Nyffé, or Nouffie, on the east.

Eyeo, called also Hio, or more properly Yarriba, is a very extensive country, extending from the frontier of Boussa nearly to the coast, from which it is only separated by the territory of Badagry, while from the Niger it reaches west to the frontier of Dahomey. It is one of the most fruitful countries on the globe, and is also well cultivated and densely peopled. The fields are covered with thriving plantations of Indian corn, millet, yams, and cotton. The loom is busily plied, though its products are not equal to those in the neighbouring country of Nyffé. The scenery is beautiful, the woods exhaling a delicious fragrance, and being filled with myriads of brilliantly-tinted butterflies. The females, likewise, are actively employed in the conveyance of goods, which they bear on their heads, executing this laborious task with surprising cheerfulness. A range of rugged mountains, from 2000 to 3000 feet high, crosses one part of the country; yet such is the mildness of the climate, that cultivation, and even large towns, are found on their very summit. The government is most despotic; the greatest chiefs, in approaching the sovereign, throw themselves flat on their faces, and heap on their heads sand and dust. Yet, in the general administration of the government, there seem few instances of cruelty or wanton oppression. The property of the sovereign consists chiefly, as already observed, in his innumerable wives, and the various functions performed by them. The habitations are in general mere huts, and the residence of the chiefs is only distinguished by the number of these within an enclosing wall; but the gates and panels of some, though only of wood, are adorned with elaborate sculpture. The practice of human sacrifice prevails extensively, though not quite to the same degree as in Ashantee and Dahomey. On the demise of the king or of any great chief, his principal officers and favourite wives are doomed to die along with him. Most tragical scenes are thus presented, as the devotion is by no means voluntary, but the necessity of it imposed by public opinion produces the deepest distress both in the prospect and in its actual arrival. The Fellatahs, it appears, have already passed the Niger, and are preparing to attempt the conquest of Eyeo, in which it is thought that they will probably succeed.

Among the cities of Yarriba, the first place is held by Eyeo, the capital, situated in a fine plain, and, like most African towns, covering a very large space. It is, indeed, fifteen miles in circumference, so that the mission had five miles to march from their quarters to the palace. There are, however, many fields and open spaces in this wide circuit, and the population can scarcely be even conjectured. Bohoo, the former capital, though much declined since the transference to Eyeo, is still a very large place, in even a superior country, resembling the finest parts of England. Since the Fellatahs obtained a footing, they have founded Alorie, which, being increased by runaway slaves from every quarter, is now reported to be greater than Eyeo. A number of other large towns are mentioned. Jenna is the first on the southern, and Keeshee on the northern frontier. Chaki, though on the very summit of the mountain ridge, is large and populous.

Nyffé, on the eastern bank of the Niger, is a very fine country, occupied by the most industrious and improved of all the negro nations. Their cotton cloths are held in the highest estimation, and even the finest of those manufactured in Houssa are by slaves from Nyffé. It has, however, of late been dreadfully ravaged by the Fellatahs, who have made themselves nearly masters of the country; and who, though mild in their domestic intercourse, carry on war in the most desolating and ferocious manner. Rabba, the capital, is considered, next to Sackatoo, the largest town in possession of this people. The surrounding territory is highly productive, covered with rich crops, and with numerous and fine breeds of horses and cattle. The mats made there are reckoned superior to all others in Africa. Koolfu and Kufu, two towns on the northern frontier, and on the high road of the Houssa caravans, being protected by strong walls, have escaped the desolation of the late wars, and are flourishing seats of trade. The people have been converted to the Moslem religion, which has not, however, introduced that gloomy bigotry, or that seclusion of the female sex, which usually accompanies it. The women, on the contrary, are the most active mercantile agents, going from market to market, and acquiring often considerable wealth. Lever, or Layaba, and Bajiebo are two thriving towns on the Niger; and the latter, being situated below a succession of shallows, enjoys an uninterrupted navigation down to the sea. Both have changed their site from the eastern to the western side of the river, in order to escape the ravages of the Fellatahs, but without fully attaining that object. The Niger spreads here into a most magnificent channel, from two to six miles in breadth, and contains several beautiful and fertile islands. Patashie is on the frontier of Boussa, while Belee, lower down, borders on Nyffé. But the finest by far is Zagoshi, immediately adjoining to Rabba. It is about fifteen miles long and three broad, in the mid-channel of the Niger, whose broad stream on each side separates it from the continent. The surface, scarcely raised above the level of the waters, is composed of mud, frequently inundated, and so soft, that a slender cane may be thrust even into the floors to any depth. Yet the island is highly cultivated and productive; and its manufactures pre-eminently display the general superiority of those of Nyffé. The cotton cloths there woven are valued beyond all others by the chiefs and great men throughout Africa. The people possess also numerous canoes, 600 of which, being armed and belonging to the sovereign, enable him to secure his country against those revolutions which have desolated the neighbouring continent. Egga, the town of Nyffé which lies farthest down the Niger, extends four miles along its banks, and has numerous boats belonging to it. The population is half Mahometan, half negro. With Egga terminates Nyffé, and with it the range of wealthy and populous kingdoms that extend along the Niger, from Yourri downwards.

The states which succeed consist of little more than single towns, each governed by its own chief, with little or no mutual dependence, and many of them addicted to fierce and lawless practices. Kacunda, however, composed of a cluster of three large villages, under the absolute sway of a single chief, though independent of Nyffé, contains a peaceable, industrious, and friendly people.

About forty miles below Kacunda, several yet unknown towns intervening, the Niger receives its greatest tributary, the Tshadda, called sometimes the Shary, and which has been traced flowing by Jacoba on the south of Houssa; but its origin and early course are unknown. At the junction, it is little inferior to the main stream, and navigated by numerous boats. Funda, reported the greatest emporium of this part of Africa, is about three days' sail up the Tshadda. At the junction of the two rivers is a commercial town, of very considerable magnitude, named Cuttumcuraffe.

Towns of importance continue to occur in the course of the Niger downwards. Bocqua, about eighty miles below Kacunda, is the seat of a very large market, frequented by numerous strangers from the interior, and from the upper and lower course of the Niger. It is followed by Atta, Abbazaca, and Damuggoo, the latter governed by an enlightened though despotic ruler. Here a commercial intercourse with Europe becomes manifest, and the people are dressed, though somewhat scantily, in Manchester cottons.

Kirree, a large market town, the citizens of which possess numerous boats, is about fifty miles below Bocqua. Here commences the delta of the Niger, which, immediately above this place, detaches a branch, supposed to flow to Benin. The country ceases to be fertile and beautiful; the superabundance of moisture converts it into an alluvial swamp, covered with vast entangled forests, which conceal the villages. Grain no longer grows in the fields, nor do cattle feed on the meadows. The subsistence of the inhabitants is solely derived from the banana, the plantain, the yam, and from the fish caught in the river. The palm tree, however, affords not only a refreshing juice, but the material of an extensive trade in the oil which it yields.

Eboe, about seventy miles below Kirree, is a very large town, called commonly the Eboe country. It forms the great mart from which the ports on the coast are supplied with slaves and palm oil. The people send up and down the river fleets of large armed boats, fantastically adorned with flags, and with representations of chairs, tables, decanters, glasses, and other European objects. Some of them are capable of containing seventy persons, many of whom have no habitation unless in the vessel. The place presents a scene of busy industry. The houses are superior to those in the interior, being composed of clay plastered over, adorned with wooden pillars in front, and surrounded by well-fenced court-yards planted with bananas, plantains, and cocoas. Yet the character of the people, corrupted by intercourse with European slave-traders, is bad, and even atrocious. They are ever ready to engage in deeds of violence, and indulge also in very dissolute habits, spending whole nights in carousal, and over their cups quarrelling with such violence, that the travellers imagined some one was suffering death amid the most inhuman tortures, till they heard the same wild tumult nightly repeated. Below Eboe the territory belongs to the coast, and has already been described.

To complete the picture of Central Africa, it remains to describe the countries on the upper Niger, as celebrated as any of those now enumerated. For 400 or 500 miles above Youri, indeed, the shores of this great river are almost entirely unknown, as Park, unfortunately, never returned to relate his navigation down to that city. At the end of the above reach, however, occurs the most important city in this part of Africa.

Timbuctoo, or Tombuctoo, the celebrated emporium of the commerce in gold, has always shone in the eyes of Europeans with a dazzling and brilliant lustre. Most of the daring and often tragical expeditions into the interior of the continent had for their object to reach that city. Yet its actual condition, and even magnitude, are still involved in very considerable uncertainty. Major Laing resided there for a considerable time, and made the most diligent enquiries; but the result, in consequence of the catastrophe which terminated his career, never reached the European public. If, as has been surmised, his papers were transmitted to Tripoli, it was under circumstances which will probably prevent them from coming at all before the world. Caillié was far from being a careful or an accurate observer. From the few positive notices, however, thus obtained, we may infer that the city is neither so large nor so splendid as rumour represented it. That dominion which, in the time of Leo, it had extended over the neighbouring countries, and even over Houssa, has ceased for several centuries. It then became subject to the yoke of Morocco; and since this was shaken off, has been governed by a negro king, and the negroes have been the ruling people. The place is described as containing some handsome mosques, and a spacious enclosed palace; but a great proportion of the habitations, like those in other negro countries, are mere conical hovels, like bee-hives. Timbuctoo, however, being the place where the caravans from Morocco, and most of those from Algiers and Tunis, first touch on the fertile regions of Central Africa, must always possess great commercial importance; and a depôt is found there of the commodities which it affords for exchange with other countries. Gold, and still more slaves, are the staple articles. Timbuctoo, also, being situated in an arid and barren territory, is dependent upon Bambarra for grain and provisions, which are brought down the Niger, and landed at the port of Cabra, a small town about a day's journey distant, consisting merely of a range of houses along the water.

At some distance above Timbuctoo occurs a very extensive lake, called the Dibbie, formed by the waters of the Niger. Its greatest dimension seems to be from east to west, on which side alone, in sailing across, its termination cannot be descried. Its shores are chiefly occupied by the kingdom of Masina, a pastoral country, inhabited by a tribe of Foulahs, who are ruled by a brother of Sego Ahmadou, the sultan of Jenné.

Jenné, or Jinnie, is a city second only to Timbuctoo in commercial importance: it is situated, according to Park, on a tributary of the Niger, but according to Caillié, on a branch separated from, and then reuniting to, that river. It appears to collect from Bambarra and the countries to the south all the commodities wanted for the market of Tombuctoo, which it transmits by vessels of considerable size, though of slight construction, and merely bound together with cords. In Park's time it was subject to Bambarra; but it has since been occupied, with several of the neighbouring territories, by Sego Ahmadou, a Fellatah prince. The population, rated probably too low by M. Caillié at 8000 or 10,000, consists of a great variety of tribes, Foulahs, Mandingoes, Bambarrans, and Moors, attracted by the extensive commerce which centres there. Transactions on a great scale are carried on by thirty or forty Moorish merchants, while the negro traffickers conduct it on a more limited footing. The merchants are said to be hospitable, and polished in their manners.

The kingdom of Bambarra consists of a beautiful and extensive plain, through which the Niger rolls for about 300 miles, from the point where it becomes navigable for large canoes. The territory is fertile and well cultivated, being to a great extent inundated during the rains. The hills to the south contain considerable quantities of golden earth, from which the metal is extracted and brought to Bambarra. Some of the northern districts partake of the character of the desert, and are covered by the Moors with their flocks and herds. Sego, the capital, in the centre of the kingdom, is divided by the Niger into two parts, the communication between which is maintained by ferries, which are under the control of the government. The place is surrounded by high mud walls, the houses are built of clay, but neatly whitewashed, the streets are commodious, and mosques rise in every quarter. The numerous canoes on the river, the crowded population, and the cultivated state of the surrounding country, exhibit altogether a scene of civilisation and magnificence scarcely to be expected in the centre of Africa. Park estimated the population at about 30,000 ding is a great commercial town, higher up the Niger, supposed to contain 10,000 people. Its market was the best arranged and supplied that Park saw in Africa. Bammakoo, where the Niger first becomes navigable for large canoes; Maraboo, a great market for salt; Samee, and Silla, near the eastern frontier; are all considerable towns on the Niger.

Several small kingdoms intervene between Bambarra and Gallam, which, with Bambouk, are included in Western Africa. Kaarta is extensive, but has a sandy soil, yielding little except the lotus. The capital is Kemmoo; but the king has the strong fortresses of Joko and Gedingooma, to which he retires when hard pressed by his neighbours of Bambarra and Ludamar. Kasson, between Kaarta and Gallam, is a small but beautiful and fertile kingdom; the capital is Kooniakary. Satadoo, Konkodoo, Dindikoo, Brooko, Fooladoo, are little kingdoms, extending along the upper course of the Faleme, Ba Fing, Ba Lee, and other streams, which combine in forming the Senegal. They are elevated, rocky, woody, with very picturesque sites; and gold, in considerable quantities, is found in the sand of their rivers.

M. Caillié has described several territories to the east of Foota Jallo and the south of Bambarra. Among these is the district of Bouré, abounding remarkably in gold, which, as elsewhere, is found embedded in alluvial earth. It is carried southwards into Kankan, a fine country, traversed by the Niger in its early course. Kankan, the chief town, is the seat of a great market held thrice a week, where are exhibited not only gold, provisions, honey, and cotton cloth, but fire-arms, powder, Indian calicoes, and other goods obtained from Europeans. To the east is Ouassoulo, a rich territory, diversified by numerous villages, inhabited by an industrious and hospitable people. Their neighbours of Sambatikila, through supine indolence, derive little benefit from the bounties of nature. To the east of them, however, is Timé, a very finely watered and cultivated territory, abounding in various fruits and vegetables, particularly the shea or butter-tree, and the goora or kolla nuts. A similar fine country continues to Jenné.

CHAPTER X.

THE SAHARA, OR GREAT DESERT.

The Sahara, or Great Desert, forms an immense range of territory, which would, indeed, cover the whole northern half of Africa, but for the partial exemption produced by the mountain range of Atlas, and the course of the Nile. Its actual and almost uninterrupted extent may be stated as from the 15th to the 30th degree of north latitude, and from the 30th of east to the 15th of west longitude. It may thus amount to nearly 3000 miles in length, and 1000 in breadth. This vast expanse, the most dreary and terrible on the face of the earth, forms an obstacle to the intercourse of nations greater than is opposed by the widest oceans. Yet the daring spirit of enterprise has induced human beings to occupy every extremity or corner in which subsistence could by any means be procured; and they have formed routes by which, though amid suffering and deadly peril, regular journeys may be performed across this vast and desolate region.

The surface of the Sahara does not consist entirely of one uniform plain of sand. In the most level tracts it has been blown into heaps or hillocks, steep on one side, which remarkably increase both the dreary aspect of the region, and the difficulties with which the traveller has to contend. In other places it is traversed by dark ranges of naked rock, which sometimes approach so close as to leave only a narrow path for caravans to march through. The terrible spectacle of human bones which strew the ground, and sometimes crackle unexpectedly beneath the tread of the traveller or his camel, lends, at intervals, additional horror to the scene. The most dangerous encounter is that of the sand wind (*fig.* 872.), when the sand, blown up by tempests from an extensive moving surface, fills and darkens the air, and threatens to suffocate the passenger. Yet some covert can generally be found during its fury; and the disasters indicated by the bones which whiten the desert appear to arise almost solely from the failure of provisions, and particularly of water. The privation falls always first upon the slaves, who on such occasions perish in great numbers.

The most remarkable and important feature, however, which diversifies the great African desert, consists in the oases. This eastern term, which signifies island, is very appropriately given to those detached spots, over which springs, bursting forth amid the desert, diffuse some partial verdure and fertility. The view of these spots inspires travellers with emotions peculiarly pleasing; sometimes from mere contrast with the encircling desolation, but sometimes also from the peculiarly elegant landscape which they themselves present. They are embellished with flowering shrubs of peculiar beauty; whole tracts are covered with forests of acacia, from which rich gums distil, and with groves of the date and lotus, yielding sweet fruits and berries, which form the food of whole tribes; while mild and graceful animals, chiefly of the antelope species, trip along the meadows. These districts, on a great scale, occur chiefly on the northern and southern borders, where the desert generally mitigates its stern aspect, and imbibes some portion of that moisture which fertilises Central Africa and the region of Atlas.

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Sand Wind.

This vast central and flat region of Africa is covered more or less completely with a quartzy and calcareous sand. Here and there solid fixed rocks rise through the sandy covering, or even form tracts of country; and in the eastern part of the Sahara the rocks are principally secondary, and chiefly limestone, sandstone, gypsum, and rock salt, which in some places appear to be traversed by trap rocks. Fertile tracts, named oases, occur here and there in the desert, and also lakes, the waters of which are in some instances impregnated with carbonate of soda, in others with muriate of soda, forming the natron and salt lakes of travellers. The rocks on the sea-coast of the Sahara, and the islands that lie along it, are said to be principally composed of igneous rock, and chiefly basalt.

The Botany and Zoology of this desolate portion of Africa are scanty, and too imperfectly known to admit of any regular description.

Inhabitants, in as great numbers as the soil can support, are found occupying both the borders and the interior oases of this vast and desolate region. They are of various races, and have entered from different quarters. The large oases of Fezzan and Darfur appear to have been partly or wholly peopled from Egypt and Tripoli. Wandering tribes from Morocco have covered with their herds all the habitable tracts of the western desert nearly as far south as the Niger. The negro tribes have seldom quitted their fertile and wooded plains to encroach on this gloomy domain: they are found chiefly in Darfur and Kordofan. But the most interior tracts, to the south and west of Fezzan, are thinly peopled by tribes of peculiar character, the Tibboos and the Tuaricks, judged to be remnants of an aboriginal race, who occupied all Northern Africa, till it was covered by the tide of conquest and emigration from Asia. With a few exceptions, the character of all these desert tribes is gloomy and sinister, like that of the regions through which they wander. Agitated by want, and exempted by their position from almost any restraint, they seek, by violence and plunder, to wrest from the caravans which pass through their domain, or from the richer nations which border it, a portion of those good things which nature has denied to themselves. These habits, with the absence of culture, have given a rude and unsocial character, which, inflamed by bigotry in the Mahometan tribes, has rendered a journey through their territory peculiarly distressing and dangerous to Europeans. It would be nearly impossible, under general heads, to describe a region so vast and composed of such varied portions. We shall therefore endeavour, under its different districts, to class all the little information which European research has been able to procure. The description may properly begin with the northern tracts.

Almost immediately west from Egypt and the Nile the desert commences, presenting the aspect of a plain from which the sea has receded. It is covered as it were with the fragments of a petrified forest; large trunks, branches, twigs, even pieces of bark, all converted into stone. When ten days' journey have been passed without seeing a human habitation, the traveller descries Ummesogeir, a village perched on a rock, with 120 inhabitants, who live a peaceful life almost secluded from intercourse with all human beings. A day's journey westward is the larger oasis of Siwah, a deep hollow valley, watered by numerous springs, and fertile in dates, the staple product and food of this region. The people, estimated at from 1500 to 2000, form a turbulent aristocracy, but derive some wealth from the continual passage of the caravans. Yet the chief interest which attaches to Siwah arises from its being supposed to contain the celebrated shrine of Jupiter Ammon. The distance from Egypt nearly corresponds; and at Ummebeda, in the vicinity, are the remains of an ancient edifice, though not corresponding in magnitude or style of architecture with our idea of that celebrated temple. The difficulty is increased by the occurrence of other oases of similar aspect, and containing similar remains; though the preponderance seems, on the whole, to be in favour of Siwah.

Augila, the Ægila of Herodotus, a few days' journey westward, is a dirty, ill-built place, about a mile in circuit. There are some more fertile spots in its vicinity; the country abounds in dates, and the inhabitants have established some active commercial relations with interior Africa. Farther to the westward is a most gloomy, rocky region, called the Black Harutsh, a succession of narrow defiles, enclosed by rugged steeps, and obstructed by loose stones. West of it is the White Harutsh, a long range of limestone rocks, which appear as if glazed, and abound in shells and marine petrifactions.

Fezzan, which opens at the end of the mountain region of Harutsh, is a very large oasis, about 300 miles long and 200 broad, sometimes dignified with the title of kingdom. Nature has scarcely distinguished it from the surrounding desert: it is not irrigated by a stream of any importance. The inhabitants, however, by laborious processes, have raised up the water, which is always found at a certain depth under ground, and have thus formed a number of little oases, in which dates and a little grain can be reared, and where a few asses and goats, and numerous camels are fed. It is the inland trade, however, that the inhabitants regard as the source of animation and wealth. Fezzan being due south from Tripoli, and about midway between Egypt and Morocco, is the most central point of communication with interior Africa. The arrival of a caravan on its frontier produces a species of jubilee; and on its reaching the capital, the demonstrations of joy are redoubled, and the sultan gives them a state reception. There are also very extensive merchants belonging to the country itself. Through these resources Fezzan is enabled to maintain a population of about 70,000. The sultan is tributary to the bashaw of Tripoli. Mourzouk, in a low unhealthy situation, but well watered, is the residence of the prince, and the chief seat of commerce. It contains remains of stone edifices; but the present structures are poorly built of mud. Germa, the Garama of the Romans, who made it the capital of this part of Africa, contains monuments of its ancient consequence, but is now much decayed. Zuila, Temissa, and Gatrone are small towns on the western frontier. Traghan, to the south, bordering on the desert, is an industrious place, with a thriving manufactory of carpets. Sockna, in the desert to the north, on the road from Tripoli, forms a great caravan station.

Gadamis, or Ghadamis, an oasis to the west of Fezzan, derives importance from the passage of the caravans from Tripoli and Tunis to Timbuctoo, though these are not so considerable as those from Fezzan and Morocco. This place, and the surrounding villages, exhibit many traces of ancient Roman occupation. It has the singularity of being divided between two hostile tribes, each enclosed by a separate wall, with a common gate, which is shut when they are engaged in mutual warfare.

Tafilet, Darah, and Sigilmessa, to the south of the Atlas, and loosely appended to the empire of Morocco, enjoyed a great celebrity during the middle ages, but have been little heard of in modern times. The caravans to Timbuctoo, which once rendezvoused in this territory, now generally prefer the more westerly route through Suse, by which they avoid the steep passage of the Atlas. These countries, however, are understood to contain many fertile tracts, abounding in excellent dates, and producing a valuable breed of goats.

The state of Sidi Heschem, or Ischim, on the southern extremity of Morocco, combining portions of Suse and of the surrounding desert, is now the chief theatre of the Moorish trade with Timbuctoo. The prince, who rules over a mixed population of Moors and negroes, has made himself nearly independent of the empire; and his country has become a depôt of the goods which pass and repass between Morocco and Timbuctoo. Akka and Tatta are the principal stations from which the caravans take their departure.

We shall now survey the more southerly states enclosed in the Sahara, and the tracts by which they communicate with those on the opposite side.

Darfur is a considerable country, almost due south from Egypt, and west of Sennaar, whence it is separated by Kordofan. The route by which the caravans pass from Egypt is of the most dreary character, since travellers, after leaving the greater oasis, do not for about 700 miles meet with a human habitation; however, at Sheb and Selime they are refreshed by springs of water. The country itself is of a very arid character, destitute of every thing resembling a river or lake. The tropical rains, however, within whose influence it is, fall at the proper season with great violence, when they fill the dry beds of the torrents, and inundate a considerable extent of country. The operations of a rude agriculture, carried on by the females, are then sufficient to produce, in a few places, wheat; and in a great number the inferior species of dokn, a kind of millet. Camels abound, and are noted for their power of enduring thirst; the horned cattle and goats are good; but horses, sheep, and asses are of inferior breeds. The people, not supposed to exceed in number 200,000, are a mixture of Arabs and negroes, the former of whom hold the chief power. They profess the Mahometan religion with bigotry, but do not submit to the secluded habits and abstinence from fermented liquors which it enjoins; on the contrary, they are jovial and even licentious. The king is absolute, though obliged to court the soldiery, who, when discontented, sometimes depose and strangle him, electing in his room another member of the royal family. They are about 2000 in number, distinguished neither for valour nor discipline, but endowed with an almost preternatural endurance of thirst, hunger, and fatigue. Large caravans, at somewhat irregular intervals, pass between Egypt and Darfur, interchanging slaves, ivory, ostrich feathers, &c. for cloths, carpets, toys, and beads. A considerable intercourse of religion and trade is carried on with Mecca by way of Jidda and Suakin. Cobbe, the capital, is not supposed to contain more than 4000 inhabitants; it is about two miles long, but consists merely of ranges of detached houses surrounded by wooded inclosures. The sultan resides at a neighbouring village, called El Fasher.

Kordofan, on the west, and separated by deserts from Darfur, forms a country nearly similar. Its warriors, like those of Bornou, are invested in chain armour. Kordofan has been subjected at different times to Sennaar and Darfur, and in 1820 was obliged to yield to the arms of the Pacha of Egypt, who continues to claim the sovereignty, which, however, over so distant and rude a tract, must always be very precarious.

To the south of Darfur is Fertit, inhabited solely by negroes, and containing valuable mines of copper. Farther south still is the mountainous country of Donga, possessed by a barbarous people, and in which, according to Mr. Brown's information, numerous streams unite in forming the Bahr el Abiad, or main branch of the Nile.

Bergoo, called also Saley, Waday, or Mobba, is an extensive country, reaching westward from Darfur to nearly the confines of Begharmi and Bornou. According to the imperfect accounts yet received, it appears to be greater and more populous than Darfur or Kordofan. Wara, the capital, is represented as a considerable city. Near it passes a large river, called the Bahr Misselad, which, according to Brown's information, traverses the country in a north-westerly direction. In this quarter, also, the great lake of Fittré is reported to exist, but our materials do not enable us to fix its site with any precision.

The most interior part of the desert, between Fezzan and Central Africa, is occupied by two remarkable native tribes, the Tibboos and the Tuaricks. The former are found on the caravan route to Bornou; the latter, more westerly, on that of Kano and Kassina.

The Tibboos are nearly as black as the negroes, but with a different physiognomy: their hair is longer and less curled, their stature low, their features small, and their eye quick. They subsist on the milk of their camels and the produce of a few verdant spots scattered amid the desert; this they seek to aid by a little trade with Fezzan, and not unfrequently by the plunder of the caravans. They are themselves, however, exposed to a mightier race of spoilers, the Tuaricks, who, at least once a year, make an inroad into their territory, sweeping away every thing, and sparing neither age nor sex. The cowardly Tibboo dare not even look them in the face; their only resource is to ascend certain perpendicular rocks with flat summits, beside one of which they take care to build each of their towns; and they are thus secured against enemies who have neither the means of escalade nor the patience to carry on a blockade. Though, however, they have lakes containing the purest salt, they are obliged to see the best part of it carried off by these sturdy marauders. Amid these distresses, the people are gay and thoughtless, delighting, like other Africans, in the song and the dance: they dance gracefully, with movements somewhat analogous to the Grecian. Bilma, the Tibboo capital, is a mean town, built of earth, and the other villages, of course, inferior. To the south of this town is a desert of thirteen days' journey, perhaps the most dreary on earth. There is neither a drop of water nor a vestige of animal or vegetable life. The sand, which often drifts in dark volumes through the air, forms hills, which rise and disappear in a night, and whose often perpendicular sides are passed with great difficulty. "Tremendously dreary are these marches: as far as the eye can reach, billows of sand bound the prospect."

The Tuaricks, that barbarous race of warriors, who spread terror through the half of Africa, appear in their domestic character under a much more favourable light. Captain Lyon thought them, as to external appearance, the finest race he ever saw; tall, erect, and handsome, with an imposing air of pride and independence. Their skin is not dark, unless where deeply embrowned by exposure to the sun. They hold in contempt all who live in houses and cultivate the ground, deriving their subsistence solely from pasturage, commerce, and plunder, with a considerable preference of the latter pursuit. They keep all the borders of Soudan in constant alarm, carrying off great numbers of slaves. Yet at home they have been found frank, honest, and hospitable, paying an unusual respect to their females, and in their social life much resembling Europeans. They have even written characters, probably very ancient, which they inscribe, only indeed on the dark rocks that chequer their territory; but these are almost entirely covered with them. The chief Tuarick tribes are the

Ghraat, in the neighbourhood of Gadamis; the Tagama, who border on Houssa; and the Kolluvi, who occupy most of the intermediate territory. They possess, in particular, the powerful kingdom of Asben, whose capital, Agades, has been long celebrated as a commercial emporium, and said even to equal Tripoli; but our information respecting it is very scanty.

In the western region of the desert, the tribes occupying its scattered habitable portions appear to be all Moors or Arabs migrated from Morocco, and who have brought with them their usual pastoral wandering, warlike, and predatory habits. These last they exercise with a relentless cruelty elsewhere unusual. A splendid booty is frequently opened to them by the vessels which suffer shipwreck on the dreary and dangerous shores of the Sahara, and which are always plundered with the most furious avidity: the only hope of the wretched captives is to be able to tempt their masters, by the promise of a high ransom, to be paid at Mogadore. Yet these dreary regions are animated by the constant passage of the great caravans between Morocco and Timbuctoo. In the most western quarter, also, at Hoden, Tisheet or Tegazza, and Taudeny, are extensive mines of rock salt, an article which is wanting and in extensive demand over all the populous regions of Central Africa. The passage of these caravans, and the formation of depôts of salt, have given to Walet an importance said nearly to equal that of Timbuctoo. Aroan, also, in the very heart of the desert, derives from these two trades a population of about 3000 souls. Of these rude wandering tribes, it may be enough to name the Woled Dleim, or Waadelim, the Labdesseba, the Mongearts, Braknars, Trasarts. But the chief state occupied by the Moors is Ludamar, on the frontier of Bambarra, which almost claims the title of kingdom. The bigotry and ferocity of the race were strongly marked by the treatment which Park met with during his captivity. Benowm, their capital, is merely a large Arab encampment of dirty, tent-shaped huts. In the heart of the desert, between Gadamis and Timbuctoo, is the district of Souat or Tuat, inhabited by a mixture of Arabs and Tuaricks, in no respect better than the rest of the desert tribes. Major Laing sustained among them a signal disaster. Aghably and Ain-el-Salah, their chief towns, are frequented as caravan stations.

CHAPTER XI.

THE AFRICAN ISLANDS.

Africa does not, like Asia or America, enclose within her bordering seas any grand archipelago. Yet she is begirt at a certain distance with numerous islands, some single, but the greater number, especially on the western coast, arranged in groups. These islands are mountainous, and many of them volcanic; they include a great extent of fertile territory, and present grand, picturesque, and often beautiful features. Yet they are so entirely distant and detached from each other, and possess so few objects in common, that they cannot afford room for any description under general heads; and our only division must be made by considering each island or group in succession.

The Azores, or Western Islands, belonging politically to Portugal, have, on plausible grounds, been referred to Europe; yet, on a general view of their site and aspect, we adhere to the old arrangement, which makes them African. They lie between the 37th and 40th degrees of north latitude, and the 25th and 32d of west longitude. They are nine in number: St. Michael and St. Mary, closely adjoining each other; Terceira, Fayal, Pico, Graciosa, and St. George, nearly a group by themselves; Corvo and Flores, considerably to the westward. These islands bear evident marks of having been produced by the action of subterraneous fire, the symptoms of which are still visible, though no volcano is at present burning. Islets have even been thrown up from the surface of the neighbouring sea. In 1720, an English captain saw one emerge with an explosion resembling the discharge of a train of artillery. A similar phenomenon was observed in 1811; flames, like a host of sky-rockets, were seen bursting from under the sea; but the rocks ejected did not rise above the surface of the water. The internal heat, however, manifests itself by very striking phenomena. Such, on the island of St. Michael, are the termas, or warm baths, the springs supplying which are so hot as often to burn the hand which touches them. Elsewhere the caldeiras, or boiling springs, rise in columns, not exceeding twelve feet high, but of various diameters, and the burning vapours are formed into clouds, which exhibit a variety of fantastic figures and brilliant tints. The water will boil an egg in two minutes, the atmosphere is strongly impregnated with sulphur, and suffocating vapours issue from various fissures. Not far from the caldeiras is the Muddy Crater, a vast cavern filled with mineral substances in a state of constant ebullition, and making a noise mightier than the waves of the sea.

Amid these turbulent elements, the soil is extremely fertile, yielding in the plains abundance of grain, while even from the crevices of the volcanic rocks grow the delicate oranges for which St. Michael is celebrated, and the vines, yielding a wine that resembles without equalling Madeira, which clothe the steep sides of the mountain of Pico. These, with grain, afford materials of an export trade, in exchange for European fabrics and colonial produce. The population is vaguely estimated at between 200,000 and 300,000.

Though St. Michael is the largest island, being above 100 miles in length, and is also the most fertile, its capital, Ponte Delgada, is not the seat of the general government. This distinction is enjoyed by Angra, in Terceira, in consequence of its comparatively safe harbour. By its good harbour it likewise obtains the exportation of the wine of Pico, which is known by the name of Fayal. The amount, in good years, has been stated at 8000 or 10,000 pipes.

Madeira, also belonging to Portugal, in about 32° north lat., is a beautiful island, consisting of a cluster of mountains, or rather one single mountain with various peaks, rising abruptly from the Atlantic. It is covered all over with rich vegetation; and to the traveller, who penetrates into the interior of its valleys, nothing can be more picturesque than the varied forms of the rocks, the verdure which clothes them, the glitter of the streams, and the country-seats, churches, and monasteries placed in striking situations. This fertile island was first distinguished for producing the best sugar known; but, after the rivalry of the West Indies rendered this culture no longer profitable, the islanders applied themselves to wine, which was soon raised to high perfection. The growth of the island is about 20,000 pipes, of which a considerable quantity is sent to America and the East and West Indies; a voyage to tropical climates improving its quality. The very best, however, called "London particular," is imported direct to that capital. The island yields a small quantity of a very rich sweet wine called Malmsey. Funchal, the capital, is almost an English town, nearly all the opulent inhabitants being merchants of that nation employed in the wine trade, while the Portuguese are generally very poor. Madeira has adjacent to it Porto Santo, a small high island with a good roadstead; and two Desertas answering to their name; but these do not seem entitled to rank with it, so as to form a group.

The Canaries, distinguished under the appellation of the Fortunate Islands, are among the most celebrated and beautiful groups of small islands in the world. They lie about the 28th degree of north latitude, and between the 13th and 18th of west longitude. There are seven principal islands, having a land area of about 3,250 square miles, and containing a population of 200,000 souls. These are Teneriffe, Grand Canary, Palma, Lancerota, Fuerteventura, Gomera, and Ferro. These islands consist of mountains which rise abruptly from the shore, and shoot to an amazing height. The Peak of Teneriffe, the great landmark to mariners through the Atlantic, is 12,000 feet high. The rocks rise from the shore in basaltic forms, whence they bear often the aspect of castles, for which they have even been mistaken by the passing navigator. In the interior, they are high and naked, bristling with sharp points, and presenting often singular indentations on their bold summits. Yet being often covered with forests of laurel, pine, arbutus, and other trees, they exhibit picturesque and even magical scenery. Humboldt considers the steep ascent of the peak as presenting the most rapid transition known from a tropical to an arctic vegetation. On the coast are valleys blooming with the orange, myrtle, and cypress; above, declivities crowned with the vine and the most valuable species of grain; higher up, forests of the laurel, chestnut, and oak; these are succeeded by the dark pine and Scotch fir; then a plain strewed with dust of pumice-stone is followed by the Malpays, entirely composed of loose fragments of lava. The summit bears the marks of a volcanic crater not very long extinguished; for even early in the last century it made destructive eruptions. The Canaries belong to Spain.

The soil in these islands displays much of that luxuriant fertility which distinguishes tropical countries, when profusely watered, like this, by the streams from the high mountains and the vapour from the ocean; yet their western sides are parched by arid and pestilential breezes from the African desert, the streams are often absorbed in the porous lava, or rush down in torrents which would sweep away the earth, were not walls formed to retain it. The principal exportable produce is that afforded by the vines, which grow on the lower declivities of the peak, and yield a wine which, though inferior to Madeira, has, from its cheapness, come into considerable use. The export has been estimated at 8000 or 9000 pipes. There is also some export of brandy, soda, and archil. The chief seat of this trade is Santa Cruz, in Teneriffe, which enjoys the advantage of an excellent roadstead, and is what Humboldt calls a great caravansary on the road to America and the Indies; where numerous vessels of all nations touch for refreshment. The place is, however, intensely hot, and the natives not engaged in business prefer the residence of Laguna, 2000 feet above the sea, which enjoys a delightful coolness. Grand Canary is more uniformly fertile than Teneriffe, supplying the other islands with grain, and yielding a little of the fine wine called sack. Las Palmas, its chief town, is the ecclesiastical capital; but the seat of government is at Santa Cruz. Ferro, small, arid, and rocky, was once supposed to form the most westerly point of the Old World, and has often been used by geographers as the first meridian.

The native inhabitants of these islands were a remarkable race, called Guanches. They had attained a considerable degree of civilisation, cultivated music and poetry, showed a high respect to the female sex, and had even a class of magades, or vestals, to whom they paid divine honours. They practised agriculture with diligence, and possessed the art of embalming bodies; the mummies, still found wrapped in goat-skins, prove them to have been a tall and handsome people. The Guanches maintained also, for nearly half a century, a most valorous struggle against the Spanish invaders, but were at length completely exterminated. The modern Canarians are a sober, active, industrious people, who have migrated to all the Spanish dominions in America and the Indies, and form the most useful part of the population.

The Cape Verd Islands, about eighty miles from Cape Verd, in 16° to 17° north lat., are ten in number, three of which are large, St. Jago, St. Antonio, and St. Nicholas; the rest small, Mayo, Bonavista, Sal, St. Vincent, St. Lucia, Brava, and Fogo. The large islands rise in the interior into high mountains, and Fogo (fire) contains a very active volcano. In general, however, the surface is arid, rocky, and much less productive than the Canaries. Long droughts sometimes prevail, and reduce the inhabitants to the greatest distress. Out of a population of 88,000, one-fourth are said to have died of famine in 1831. The chief growth is cotton, which is exported to Africa; and a very fine breed of mules and asses is reared, many of which are sent to the West Indies. Goats, poultry, and turtle abound. Salt is formed in large quantities by natural evaporation, particularly in Mayo, where there is an extensive pond, into which the sea is received at high water, and the salt completely formed before next tide. These islands are not much visited by vessels destined for America and the Indies, which, after quitting the Canaries, stand to the westward, in order to obtain the benefit of the trade-winds. The Portuguese, since the first discovery, have claimed the sovereignty, and maintain a governor-general, who resides at Porto Praya.

Ascension is a solitary rock, far out at sea, in lat. 8° 8′ north, long. 14° 28′ west. It is completely rocky, barren, and long uninhabited; yet from its situation ships often touched there, and letters were even lodged in the crevice of a rock, called "the sailor's post-office." The British have a garrison here.

St. Helena, so celebrated lately as the ocean-prison of the greatest of modern warriors, has now reverted to its original destination, as a place of refreshment for the returning East India ships. It presents to the sea, throughout its whole circuit of twenty-eight miles, an immense perpendicular wall of rock, from 600 to 1200 feet high, like a castle in the midst of the ocean. On the summit is a fertile plain, interspersed with conical eminences, between which picturesque valleys intervene. The climate on the high grounds is very agreeable and temperate, though moist. There are only four small openings in the wall of rock, on the largest of which, where alone a little beach appears, has been built James Town, where the governor resides, and where refreshments, though on a limited scale, are provided for ships. By the India bill of 1833, St. Helena is vested in the crown, and is now managed by a governor nominated by the king.

Turning the Cape of Good Hope, and entering the Indian Ocean, we arrive at Madagascar, one of the largest and finest islands in the world, placed between 12° and 26° south latitude: it may be about 840 miles long, and 220 in its greatest breadth. The interior is traversed from north to south by a chain of very lofty mountains, of which the highest are Vigagora in the north, and Botishmenil in the south. Their aspect is grand and picturesque, and strikes with surprise the traveller who surveys their awful precipices, covered with trees, as ancient, perhaps, as the world, while he hears the roar of stupendous, almost unapproachable, cascades. Beneath these, however, appear rural views, delightful hills, vast savannahs, covered with cattle, and secluded valleys. The forests abound with varied and beautiful trees, palms, ebony, dyeing woods, enormous bamboos, orange, and citron. The plains along the sea, finely watered by numerous streams from these mountain recesses, are extremely fruitful in rice, sugar, silk; fitted, indeed, for almost every tropical product, though there seem few plants peculiar to the island. The mountains contain, also, valuable mines, especially of iron, but only partially worked.

The population of Madagascar has been variously estimated at from 1,000,000 to 4,000,000: perhaps, with M. Balbi, we may take 2,000,000 as a probable conjecture. The people are not savages: they cultivate the ground, and practise some arts; yet are, on the whole, very rude and uninformed. They are described as a peculiarly gay, thoughtless, and voluptuous race, void of care and foresight, always cheerful and good-humoured. They are divided into a number of small tribes, who wage very frequent wars with each other. On the eastern coast are the Antavarts, within whose territory is the fine bay of Antongil; the Betanimenes, holding the most fertile tracts in the island, and having the large and commercial port of Tamatave; the Betimsaras, in whose limits is the frequented harbour of Foul Point; the Antaximes, having Malatane and Andevourante. On the western coast the principal people are the Muquez, a warlike race, in whose domain is St. Augustine, a port where the English, in their way to India, through the channel of Mozambique, often seek refreshment; the Seclaves, an extensive country, long ruled by a queen, and comprising the frequented port of Bembetoke, and the large town of Mouzangaye, asserted to contain 30,000 inhabitants. But the most important people, lately, have been the Ovas, occupying an extensive and high plain in the interior, whose sovereign, Radama, had reduced to vassalage the largest and finest part of the island. He had formed a train of artillery, and armed a great part of his troops with muskets, and had also sent a number of young natives to obtain instruction in Paris and London. With the aid of the English missionaries, he had established a printing-press, and trained a number of teachers, both male and female, who were distributed through various parts of the kingdom. Unhappily this prince, in July, 1828, was poisoned by his wife, who immediately raised an unworthy paramour to the throne. This event has introduced great anarchy, inducing several subject states to shake off the yoke; and there seems much room to fear that it will arrest entirely the career of improvement commenced under such prosperous auspices. The French have made frequent attempts to form colonies in Madagascar, which they even repeated in 1829, but never with any important result. They have small stations, however, at St. Mary, Tamatave, Foul Point, and near Fort Dauphin.

Bourbon, about 400 miles east of Madagascar, though it can bear no comparison as to magnitude with that island, is not inconsiderable, being forty-eight miles long and thirty-six broad. It consists entirely of the heights and slopes of two great mountains, the most southerly of which contains a volcano in perpetual activity, throwing up fire, smoke, and ashes, with a noise truly tremendous. These substances are ejected, not from the crater, but by lateral openings, presenting at a distance the appearance of fiery cascades. Even in the northern mountains, basaltic colonnades, deep fissures, hillocks thrown into the valleys and the beds of the rivers, announce ancient and powerful volcanic agitations. A great part consists of what the French call burnt country, a complete desert of hard black soil, with numerous holes and crevices. The rest, however, well watered by numerous torrents, is favourable not only for the ordinary tropical products, but for some fine aromatic plants. The Portuguese discovered this island in 1592, but being taken by the French in 1642, and raised by M. de Flacourt to an important establishment, it was called Bourbon, which name it has resumed, after bearing, during the revolutionary period, that of Réunion. Coffee brought from Mocha in 1718, succeeded so well that the Bourbon coffee was considered second only to the Arabian. At a later period, its cloves came into some rivalry with those of Amboyna. All other objects of culture, however, have lately become secondary to that of sugar, which has been found profitable beyond any other.

The population of Bourbon in 1831 was 97,231; of which 14,059 males, and 13,586 females were free; 46,083 males and 23,483 females were slaves. The exports were valued at 396,000*l.*, the imports at 293,000*l.* The island labours under the disadvantage of not having a secure harbour, or even a roadstead.

Mauritius, or Isle of France, is about 120 miles east of Bourbon, not quite so large, yet still 150 miles in circuit. The rugged mountains, which cover a great part of the island, give it a somewhat sterile character, and it does not yield grain even for its limited population; yet the lower slopes produce coffee, cotton, indigo and sugar of improved quality. The Portuguese in 1505 called it Cerne, for which the Dutch in 1598 substituted Mauritius, from the Prince of Orange; but neither nation formed any permanent establishment. The French, too, for some time, sent only a few casual settlers from Bourbon; but, in 1734, La Bourdonnaye, its able governor, raised it to a naval station of the first importance: it was called Isle of France, and became the capital of the French possessions in the Indian seas. It was considered impregnable, and remained in their undisputed possession, after the greatest disasters which befell their arms on the continent. It became then a strong-hold for privateers, who are said, in ten years, to have taken prizes to the value of 2,500,000*l.* At length, in 1810, it yielded to the arms of Britain with less resistance than was expected. Since 1812, when its sugars were admitted at the same duties as those from the West Indies, this branch of culture has taken a great precedence over all others; the produce, from about 5,000,000 pounds, having risen, in 1832, to about 60,000,000. In that year, the export of coffee was only about 20,000 pounds. Its ebony, the finest in the world, and its tortoise-shell, are each worth about 9000*l.* The imports, in 1826, were estimated at 657,000*l.*, and the exports at 572,000*l.* The island, in 1827, contained 94,600 inhabitants, of whom about 8000 were whites, 15,000 free negroes, 69,000 slaves, the rest troops and resident strangers. Port Louis is a good harbour, with rather a difficult entrance: it affords every convenience for careening and refitting; but provisions, being all imported, are not very abundant.

A considerable number of islets, single or in groups, spot the Indian Ocean to the east of Africa. Of dependencies on Mauritius, Rodriguez contains only 123 inhabitants, Diego Garcia 275, Galega 199. The Seychelles, nearly north from Madagascar, with the bordering group of the Amirantes, are a cluster of very small islands, high and rocky, and little fitted for any culture except cotton; but they abound with cocoa-nuts, and their shores with turtle and excellent fish. The population in 1826 was 7665, of whom 6525 were slaves.

The Comoro Islands, a group of four, between Madagascar and the continent, are very elevated and mountainous in the interior; but the lower tracts abound in sheep, cattle, and all the tropical grains and fruits. The inhabitants are mild and industrious, but they [illegible] dreadfully infested and their numbers thinned by the Madagascar pirates, who make an annual descent, laying waste the open country, and blockading the towns. Comoro is the largest, containing a mountain supposed to rise 6000 or 7000 feet high; but Anjouan, or Johanna, is the most flourishing, its chief town being supposed still to contain 3000 inhabitants. Mohilla and Mayotta are comparatively small.

Socotra, forty leagues east from Cape Guardafui, is governed by a sheik dependent on the Sultan of Keshin. It is twenty-seven leagues long and seven broad, mountainous, rocky, and arid; yet it yields the best aloes in the world, and a small quantity of dragon's blood. Though the coast is bold, it affords excellent harbours; and ships may procure bullocks, goats, fish, and excellent dates, at reasonable prices.

Botany and Zoology.

Respecting the Botany and Zoology of several of the African islands, we can communicate some curious particulars, which will be best collected under one general head.

Tristan d'Acunha.—This island, if indeed it may be considered as belonging to Africa, is situated in 37° S. lat. and 11° W. long. The whole is a solid mass of rock in the form of a truncated cone, rising abruptly from the sea, and ascending, at an angle of 45 degrees, to the height of 3000 feet. This mass is surmounted by a dome, upwards of 5000 feet high, on the summit of which is the crater of an old extinguished volcano. The face of this mountain, as far up as the base of the dome, is mostly covered with brushwood, intermixed with fern and long grass, that veil its native ruggedness. Along the N.W. side of the island there runs a belt of low land, constituting a plain about six miles long, and presenting to the sea a perpendicular front from 50 to 300 feet high. The whole is a mass of stony fragments, scoriæ, and other volcanic products, mixed with black indurated earth. Part of this plain has been cleared, by fire, of its wood, though the scorched trees still encumber the ground; and the rest is in a state of nature, covered with an impenetrable copse. This plain is the only part of the island that is in the least susceptible of vegetation; and, could the needful and laborious preparations be made, there is no doubt it might yield a fair return in all sorts of European grain.

The ascent to the peak, which, though practicable in some places, is difficult and dangerous, was performed by the late Captain Carmichael, of whose remarks on the botany of the Cape we have already availed ourselves. Two plants he observed as particularly deserving of notice; the Spartina arundinacea, whose close entangled tufts much impeded the progress of the party, and the Lomaria robusta, a fern which trails along the ground, and the stems of which, like junks of old cable, cross and recross each other in so intricate a manner, that it required great circumspection to avoid falling over them. The ascent to the peak is extremely steep, and the rocks of so loose and incohesive a nature that it is dangerous to touch any one, lest it should bring down many more; while, in availing themselves of the branches of the arborescent Phylicæ to aid their progress, the travellers saw no less a risk, the greater part of these being rotten, so that a fatal issue might follow any dependence upon them. No vegetation exists on the dome itself, not so much from the elevation, as from the total want of any soil wherein plants could fix their roots.

The climate of Tristan d'Acunha is so mild, that the herbage remains unimpaired throughout the year. Snow never falls on the low land, but the island is almost constantly enveloped in fog or rain; which does not, however, prevent its being a very healthy spot. The Flora is perhaps as copious as the extent and situation of the island would lead us to expect; but, except the Cryptogamic tribes, there is nothing of peculiar interest. The only plant that approaches to the size of a tree is a species of Phylica. This plant not only occupies all the plain, but has spread over the face of the mountain, wherever its roots could insinuate themselves into the crevices of the rock. In favourable situations it grows to the height of 20 feet and upwards, measuring from 12 to 18 inches in diameter. Its trunk is extremely crooked and twisted; but the wood is hard, close-grained, and, according to the report of a ship-carpenter who examined it, would make excellent timber for vessels of sixty tons and under. Its bark possesses a slight degree of astringency. Owing to the lightness of the soil, and the frequency of high winds, these trees rarely stand upright, but lean against the ground, and cross each other, in such a manner as to make it a business of extreme difficulty to penetrate to any distance through the wood. Besides the Phylica, there are only two shrubby plants on the island, both of which belong to the genus Empetrum, and may be but varieties of one species. They possess no quality to recommend them, but that they grow on the most barren spots, where nothing else could vegetate. But of the herbaceous plants, the most remarkable is the gigantic species of Spartina (*S. arundinacea*), above alluded to. This grass overruns the whole island, from the upper edge of the table-land down to the sea-shore, accommodating itself to all soils and situations. It springs up in large close tufts, which, when full grown, are borne down by their own weight, and lean on each other in such a manner, that a person may roll himself over them, without any danger of sinking. Its stems grow to the length of six or seven feet, and are of a solid almost ligneous texture, and covered with a profusion of leaves. This grass makes an excellent and durable thatch, and the young foliage is eaten by horses and oxen. The Wild Celery grows in great abundance over all the low ground, and attains a great size, its stem sometimes measuring upwards of three inches in diameter. It possesses, in a high degree, the flavour of the Garden Celery, and by proper management might be brought to equal it in every respect. A species of Chenopodium (*C. tomentosum*), of a strong balsamic odour, is common. An infusion of the dried leaves of this plant is used as a substitute for tea by the Hottentots sent down in charge of the cattle. The soldiers use for the same purpose the leaves of the Pelargonium, which hardly yield to the others in strength of odour. The low ground is overrun with a species of Acæna (*A. sarmentosa*), a plant of no apparent utility, but an intolerable nuisance to such as have occasion to walk over the ground where it grows. Its fruit is a sort of bur, which, on the slightest touch, fixes itself on the clothes, and, falling in a hundred pieces, covers them with an unseemly crust of prickly seeds, not to be got rid of without infinite labour.

On quitting the shores of the Cape of Good Hope, and directing our attention to the eastern side of Africa and the adjacent islands, we shall find that very little is to be collected that can convey any thing like a satisfactory idea of their vegetable productions. The Cape lies in the highway, if we may so term it, to the most important countries of the East, and it has consequently been frequented by men of science as well as by the sons of commerce. It is quite otherwise when we have rounded that vast promontory, and proceeded northward. Madagascar, which seems next to offer itself, though visited by Michaux, who found an untimely grave there, by Du Petit Thouars, who published some memoirs on the plants, by Dr. Thomson, F. L. S. staff surgeon, with a copy of whose manuscript journal we have been favoured by C. Telfair, Esq. of the Mauritius, by MM. Helsinger and Bojer, whose journal is published in the third volume of the *Botanical Miscellany*, and lastly, by Dr. Lyall; yet has been but imperfectly investigated by these able men, who could do little more than testify how much remains to be explored.

Agriculture seems to be most carelessly performed throughout the vast island of Madagascar. The indolent natives stir the ground with a spade, and drop in a few seeds, when they are sure of reaping such a harvest as shall supply their wants throughout the year. Rice is the chief object of culture, and the principal article of food; it is grown on the low lands in the damp woods, and by river sides; sometimes being put into the ground as we do kidneybeans, but oftener transplanted, and it yields a hundred fold, without giving other trouble than that of keeping the soil free from weeds. Women and children only are employed in setting the rice, the men helping to clear the ground. Thus the inhabitants of Madagascar could hardly maintain themselves without the existence of those extensive marshes, which are necessary for the culture of rice, but which constantly exhale pestilential miasmata, and to which the insalubrity of the climate may justly be attributed. After Rice, Manioc and Batatas are the chief articles of food. The roots of Manioc often acquire an enormous size, measuring fifteen feet long, and almost a foot in diameter. Then come Maize, "seasoning Herbs, Giromonds," Calabashes, Earth Nuts (*Arachis*), Sugar Canes, Pine Apples, Bread Fruit, and the Vine, and among the articles of manufacture are Cotton and Hemp. Potatoes, that were introduced by Mr. Hastie, the British resident, have thriven admirably, and the same may be said of other European vegetables, as Beans and Peas. It is much to be regretted that the eager desire of gain which characterises the Malagassy rarely allows them to wait till the productions of the soil are ripe; they gather their vegetables and fruit and carry them to the bazaar not half matured, that they may secure some paltry pieces of coin.

An exact enumeration of all the Indigenous Madagascar Plants is, and will long remain, a desideratum in botany. Centuries must previously elapse, and the knowledge can only be obtained through the exertions of Europeans, who will gradually render the climate of Madagascar less prejudicial by extending the limits of its cultivation, and exploring the hitherto undiscovered districts. The productions of the west, north, and southern coasts, and of all the interior, remain almost unknown, and the slender documents that have been furnished as to the vegetation of the north-east, by French naturalists, most of whom have perished from the effects of the climate, serve rather to stimulate than to satisfy a botanist's curiosity.

Two plants, peculiar, we believe, to Madagascar, are eminently worthy of notice; the Hydrogeton fenestralis (*fig.* 873.), and the Tanghin tree (*Tanghinia veneniflua*). The first is an aquatic plant, bearing tuberous and esculent roots, and throwing up from these roots elliptical leaves, pierced with holes, arranged with the greatest regularity and in the form of parallelograms; or, in other words, the whole leaf seems to be composed of a latticework of vascular tissue, presenting the appearance of what is called the skeleton of a leaf. We possess beautiful specimens, gathered by the late Dr. Lyall, and we are informed by Mr. Telfair that living plants have been introduced to, and are cultivated at, the Mauritius.

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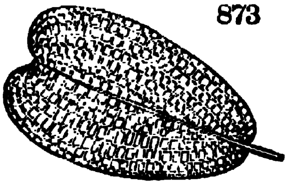

Hydrogeton Fenestralis.

The famous Tanghin Poison is the fruit of Tanghinia veneniflua (*fig.* 874.), formerly called Cerbera Tanghin. Its botanical history and a figure of it were first published in the *Botanical Magazine*, tab. and page 2968; and, since, still more copiously, from communications by C. Telfair, Esq. in the *Botanical Miscellany*. To these works, therefore, we may refer for full details; and not to occupy too much space here, we shall confine ourselves to a relation of the extraordinary and truly diabolical use that is made of the seed of this plant in its native country, Madagascar. The kernel, though not much larger than an almond, is of so poisonous a nature, that a single one suffices to destroy more than twenty individuals. Radama, the late enlightened sovereign of Madagascar, abolished the use of it in the native ordeal; but it has been unhappily revived by his successor to an extended degree. It was with great difficulty that Radama could induce the chieftains to admit of the discontinuance of an usage which had existed from time immemorial, and whose unerring efficacy in the detection and punishment of crime had never been questioned, until Mr. Hastie, the British government agent, had acquired such an influence over the king's mind as to expose its fallacy. But this was the work of years; and though Radama was at last himself convinced that nothing could be more unjust than the practice, yet he feared to shock the prejudices of his subjects, by commanding its discontinuance. Even the chief performers in the ceremony, the "skids" as they are called at Tannarivoo (the capital of Madagascar), who unite in their own persons the offices of priests and physicians, and who administer the poisonous kernel to the victims, never doubt its power of revealing guilt and clearing innocence. The last occasion on which the ordeal was practised in Radama's reign, and of which he availed himself to procure its discontinuance, personally regarded his court and attendants. The king was affected with a complaint of the liver, for which the "skid" prescribed some inefficacious remedies; and as the disease became worse, Mr. Hastie gave him calomel powders, which he had found, by experience, to relieve himself under similar circumstances. The disease vanished, but ptyalism was produced, and alarmed the king's family, who believed that he was poisoned, and insisted on all his immediate attendants being put to the ordeal of the Tanghin. The royal skid was most earnest in pressing to have it performed, although he himself, from his rank and place, would be among the first to whom it would be administered. In vain the king protested that he felt himself cured, and that the indisposition and soreness of the mouth were caused by the medicine that had relieved him, and would pass off in a few days. The skid insisted; the ministers and principal chieftains joined with the family in requiring the ordeal, to which the king reluctantly consented, stipulating that it should be the last exhibition of the kind, and bewailing the necessity which thus deprived him of so many attached dependants, whose fate he predicted, while he protested his conviction of their innocence. The king's servants, including the skid, were more than twenty in number; they were shut up at night separately and forbidden from food. Next morning they were brought out and paraded in procession before the assembled people: the presiding skid had the Tanghin fruit in readiness: after some prayers and superstitious evolutions, he took out the kernel, which he placed on a smooth stone, and with another stone broke down a part of it, to a softness like pounded almonds. The victims were then brought separately forward, and each questioned as to his guilt: if he denied, his arms were tied behind, and he was placed on his knees before the skid, who put a portion of the pounded kernel on his tongue, and compelled him to swallow it. Thus the kernel was shared among all the king's personal servants. On some, the effect appeared in half an hour or less. The skid takes particular notice how they fall;—on the face, to the right hand or left, or on the back;—each position indicating a different shade of guilt. Convulsions generally came on, accompanied with violent efforts to vomit. Those whose stomachs reject the dose at an early period, usually recover: on this occasion there were but two with whom this was the case. The others were flung, in a state of insensibility, into a hole ready dug, and every person present at the ceremony was obliged to throw a stone over them. Thus their burial was soon completed. The royal skid was among the first that fell. Those that recover are supposed to bear a charmed life ever after, and are respected as peculiar favourites of the gods.

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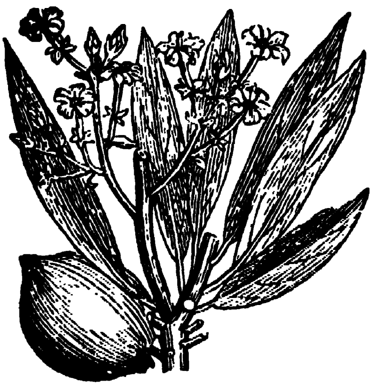

. Tanghinia Veneniflua.

The isles of France (or Mauritius) and of Bourbon have indeed been investigated by the labours of several naturalists; and the result, as far as regards their characteristic vegetation, has been communicated to us in a letter from M. L. Bouton, and the same has very recently been published in the twenty-fourth volume of the Annales des Sciences Naturelles, p. 247. This able and zealous botanist particularly notices the opinion of M. Achille Richard, and says: "After casting a rapid glance on the kind of vegetation that is observable in the islands of Bourbon, Mauritius, and Madagascar, M. Richard, in the introduction to his *Monograph of the Orchideæ*, considers, as do all geographers, these three islands as belonging to Africa, lying, indeed, as they do, much nearest to this continent. 'But,' continues M. Richard, 'in the character of their vegetation, they differ from that of Africa, and more assume the peculiarities of the Indian Archipelago, from which they are separated by widely extended seas.' Farther on, M. Richard thus expresses himself:—'We may perceive that the Flora of Mauritius and Bourbon has more analogy with that of the Indian islands than with the vicinity of the Cape of Good Hope; and that, though geography may rank these islands as appertaining to Africa, they belong to India, and consequently to Asia, in consideration of their vegetation. Without presuming to give a satisfactory explanation of this phenomenon, we will simply add two observations, from which it seems easy to deduce such conclusions as may throw light on this point. 1. The regions of the Cape of Good Hope are extra-tropical; while the isles of France and Bourbon, and the Indian Archipelago, are situated within the tropics: and it is well known what an influence this situation exercises on the character of vegetation. 2. It appears that the prevailing winds of the Indian Archipelago are from the east and north-east; that is, exactly those which come in the direction of the Indian islands.' These remarks appear to me conclusive; the first, especially, is highly important. All naturalists, who have explored the most extensive regions of our globe, have observed an extraordinary identity in the productions of the tropics. On this subject I shall quote M. Dumont Durville, who, in a note communicated to the Institute on the voyage of circumnavigation performed in the Coquille, says, 'more than half our voyage lay in the torrid zone, and among the numerous archipelagoes that are scattered over the immense Pacific Ocean. In all these islands, starting, as it were, from the most easterly ones, to those that are on the confines of Asia and even of Africa, the Flora is but the same; herbs, shrubs, and even almost all the trees, are alike; and the only shade of difference is, that the number of species increases as we draw near the continents.' Mauritius, Bourbon, and Madagascar," proceeds M. Bouton, "are comprised in these general remarks; but the Cape of Good Hope, situated beyond the tropics, and fourteen degrees south of Mauritius, is necessarily an exception. The Flora of the African promontory is stamped with a peculiar character, that to me presents more points of affinity with that portion of New Holland which is placed nearly in the same parallel. Several identical genera may be observed in the mass of vegetation of these two localities. Many Proteas, certainly, grow at the Cape; but a few of the species are also found in New Holland; with very similar genera, as Banksia, Embothrium, Hakea, and Persoonia. Gnaphalium, Elichrysum, Diosma, and several genera belonging to the Irideæ, Leguminosæ, and Ficoideæ, grow equally at the Cape of Good Hope and New Holland. The prevailing natural families in the latter country are, according to M. Leschenault, the Proteaceæ, Ericinæ, Synanthereæ, Leguminosæ, and Myrtaceæ; now these families constitute the gross of the vegetation on the promontory of Africa. A third spot on our globe seems to present some traits of resemblance to the two localities I have just described, and that is the southern extremity of America, where there are many of the genera which grow in the south-west of New Holland. Again, the vegetation that obtains in these three points has no resemblance to that of the Mauritius, while the productions of our island bear more analogy with those of that portion of Africa which lies under the same parallels as Madagascar, Bourbon, and the Mauritius. Now this wide extent is yet hardly known, the part lying near the sea alone having been explored; and this is pronounced by my esteemed friend, M. Bojer, who examined the coasts of Mosambique and Zanguebar, to possess many of the plants which grow in our islands, or others which hold similar rank in the same natural orders. It is no less true that some genera do exist peculiar to the Mauritius, and which form, as M. Richard expresses it, its peculiar physiognomy; but every thing tends to confirm the opinion that these detached features will sink in the general mass, when we shall become better acquainted with the botany of that portion of Africa which lies between the tropics, and which, more than any part of our globe, contains the vegetable productions whose congeners exist in the Mauritius."

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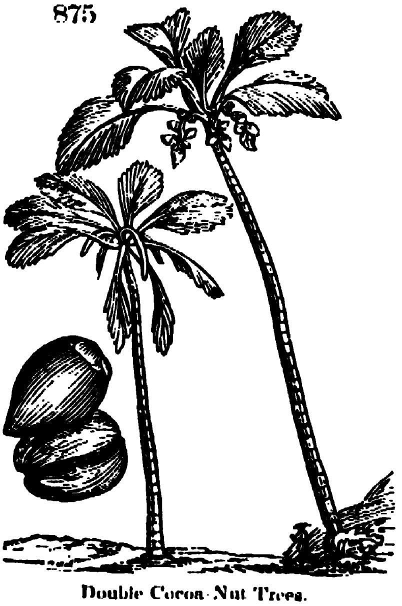

Double Cocoa-Nut Trees.

About eight or ten degrees north of Madagascar lies a small group of islands, called *the Seychelles*, which are rendered famous by the production of a Palm, not known in any other part of the world, and whose history is too remarkable to be passed over altogether in silence. Even of this small group of islands, three only, lying within half a mile of each other, produce the Palm that bears the Double Cocoa-Nuts (*fig.* 875.), or, as they are called, *Cocos de Mer*, from an erroneous idea that they were marine productions. Until the discovery of these islands in 1743, Double Cocoa-Nuts were only known from having been found floating on the surface of the sea, in the Indian Ocean, generally destitute of husk, and with the inner part decayed, but still so highly prized as to be spoken of by Rumphius as "mirum miraculæ naturæ, quod princeps est omnium marinarum rerum, quæ raræ habentur." This author further assures us that "the Double Cocoa-Nut is no terrestrial production that may have fallen in the sea and there become petrified, as others ignorantly stated; but a fruit, growing itself in the sea, whose tree has hitherto been concealed from the eye of man." The Malays asserted that the palm that bore it was sometimes seen at the bottom of the ocean; but that, if dived for, it instantly vanished: while the negro priests further affirmed that its submarine branches harboured an enormous griffin, which nightly came to shore, and, seizing elephants, tigers, &c., carried them as a prey to its nest;, and, not satisfied with these, attracted such ships as came near to the spot, and devoured the luckless mariners. With such and even stranger ideas respecting its place of growth and history, there is no wonder that this nut should be highly prized; indeed, in the Maldivian islands, it was death to any man to possess it, and all that were found belonged to the king, who sold them at high prices or distributed them as regal gifts. From 120 to 150 crowns were paid for each nut, and even kings have been so greedy of obtaining these fruits as to give a loaded ship for one. Rumphius certainly states his suspicions that the Chinese and Malays may have, perhaps, set too high a value on the Double Cocoa-Nut, when considering it an antidote against all poisons. The albumen, or meat which lines the nut, was thought to be the part where this virtue resided: it was mingled with red coral, black ebony, stags' horns, and many such anomalous ingredients, and drunk from vessels of porphyry. All inflammations of the body were likewise believed to be subjected to its powers: it was a preservative against colic, apoplexy, paralysis, *et id genus omne.* The shell, being less precious, was granted to the great men for drinking-vessels; a single slice being sufficient, if used as the lid, to neutralise the effect of any noxious ingredient that might mingle with the drink, tobacco, betel, &c. that were held in it. The discovery of the Seychelles islands, and the knowledge thus obtained that these mystical nuts grew upon trees, caused a speedy reduction in their value; though the botanical history of the Palm that produced them continued long a desideratum. Some imperfect notices served but to stimulate the curiosity that was finally gratified by Mr. Telfair, who entreated Mr. Harrison, a friend resident in the Seychelles, to obtain the necessary specimens and delineations. "To behold these trees," says Mr. Harrison, "growing in thousands, close to each other, the sexes intermingled, a numerous offspring starting up on all sides, sheltered by the parent plants, the old ones fallen into the sere and yellow leaf, and going fast to decay, to make room for the young trees, presented to my eyes a picture so mild and pleasing, that it was difficult not to look upon them as animated objects, capable of enjoyment and sensible of their condition." A new leaf is formed annually, which, falling off at the year's end, leaves a scar or ring, by counting which it is estimated that this Palm requires 130 years for its full growth. The foliage is finest on young plants, shooting up perpendicularly, folded close like a fan, to 10 feet or more. In this state it is pale yellow, and used for hats and bonnets; afterwards, it expands in all its beauty, and becomes green. The crown or cabbage, in the midst of the leaves, is eaten; the trunk is used for building, and the foliage serves for thatching, and even for the walls of houses, a hundred leaves sufficing to construct a house, including the partition, doors, and windows. The down, attached to the young foliage, serves for filling mattresses and pillows, while the ribs of the leaves make baskets and brooms. Vessels of different forms and uses are made out of the nut, some of them holding six or eight pints; and, being very strong and durable they are much valued. Among other articles, shaving-dishes, black, beautifully polished, set in silver and carved, are formed of these nuts.

The Zoology of Madagascar is as little known now as it was a century ago, while the recent intemperate conduct of the French naval commanders towards the native authorities destroys all those hopes which had been raised for the success of a scientific naturalist of that nation, who left France, several years ago, to explore this most interesting country. The zoology of Madagascar, in fact, from the scanty gleanings that have as yet reached Europe, is of such a peculiar character, that it can scarcely be assimilated to that of Africa, while it appears equally distinct from that of Australia. It is said that neither the Lion, Tiger, Elephant, nor Horse is here known; while the Apes and Monkeys of Africa and the Asiatic islands are replaced in Madagascar by the family of Lemurs. A list of these curious monkey-like animals is here subjoined. Our knowledge of the ornithology is still more defective, although it is probably very distinct from that of the neighbouring continent. Some singular Shrikes, allied to the Vanga of Buffon, belong to this island; less known to the naturalist than any other of moderate size in the whole world.

The quadrupeds, as intimated by various writers, are arranged in the following list:—

Lichanotus niger *Ill.*	Black Indri Lemur.
Lichanotus laniger.	Flocky Lemur.
Lemur Macaco.	Ruffled Lemur.
Lemur rufus.	Red Lemur.
Lemur Mongooz.	Mongooz Lemur.
Lemur Catta.	Ring tailed Lemur.
Lemur niger.	Black Lemur.
Lemur fulvus.	Yellow Lemur.
Lemur albimanus.	White-handed Lemur.
Lemur collaris.	Collared Lemur.
Lemur albifrons.	White-fronted Lemur.
Lemur nigrifons.	Black-fronted Lemur.
Lemur cinereus.	Ashy Lemur.
Otolicnus madagascariensis *Ill.*	Little Galago.
Otolicnus crassicaudatus.	Great Lemur.
Tarsius fuscomanus *Ill.*	Yellow handed Tarsier.
Cheiromys madagascariensis *Cuv.*	Aye Aye.
Pteropus Edwardsii.	Edwards's Vampire.
Centenes semispinosus.	The Tendrac.
Centenes setosus.	Tanrec.
Sciurus madagascariensis.	Madagascar Squirrel.
Sus larvatus.	Masked Boar.

The native Zoology of the Mauritius, as may be supposed, is but scanty; yet the judicious exertions of the French have introduced several animals beneficial to the island. The African Serpent-eater is said to have become domesticated, and is highly useful in destroying reptiles. The Locust-eater (a species of *Lamprosternus?*) has likewise been brought from the same continent, and has several times preserved the crops from complete destruction. The Goromy (*Osphroemus olfax* Com.), a small but most delicious fresh-water fish of China, is here completely naturalised, and has multiplied to such a vast extent, as to be considered the greatest delicacy of the island.

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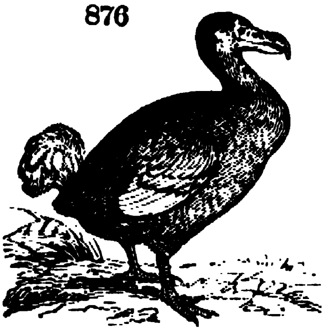

The Dodo.

The celebrated Dodo (*fig.* 876.), a bird no longer known to exist, was unquestionably a former inhabitant of the island of Mauritius. Old Tradescant, whose museum appears to have contained an entire specimen, mentions it as "not being able to flie, being so big." Some very interesting particulars on this strange uncouth animal have been collected and published by Mr. Duncan, the present zealous and intelligent curator of the Ashmolean Museum, where the bill (probably belonging to the specimen named in Tradescant's catalogue) attests the veracity of the early voyagers; while a foot is in the British Museum. This latter induces us to view the Dodo as the Rasorial type of the order Raptores, its relation to the Rasores being only analogical.

The few native quadrupeds noticed by authors are the following:—

Pteropus vulgaris.	Common Vampire.
Pteropus rubicollis.	Red-collared Vampire.
Taphozous mauritianus.	Mauritian Bat.
Centenes setosus.	The Tauree.
Mangusta galera.	Mauritian Manguste.

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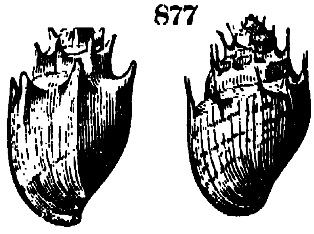

Melania Amarula. M. setosa.

The Marine Shells are conspicuous for their beauty and profusion; although very few are different from those species found in the Indian Ocean. The Olives, Harp-shells, Cowries, Cones, &c. might furnish a long list; but the Many-ribbed Harp (*Harpa nobilis*) must not be omitted. The fresh waters furnish the Melania Amarula *Lam.* and the Melania setosa *Sw.* (*fig.* 877.): the latter is of great rarity; it is crowned with vaulted spines, each of which encloses two or three setaceous bristles; a singularity seen in no other shell yet discovered.

BOOK IV.

AUSTRALASIA, POLYNESIA, AND THE ISLANDS IN THE POLAR SEAS.

Islands and groups of islands form an extensive and important portion of the surface of the globe. Those which are in the close vicinity of the great continents, and situated in gulfs enclosed by them, have been considered as appendages to these continents, and treated of in connexion with them. But, in that wide expanse of ocean, which covers more than half the surface of the globe, there occur some very large and numerous small islands, widely separated from any continent, and a survey of which is requisite to complete the description of the world. They present human society under rude, indeed, but striking and picturesque, aspects; and, through the extension of commerce and navigation, colonies have been established, and a frequent intercourse maintained with them by the maritime nations of Europe.

These islands may be divided into three great classes, marked by distinctive characters:— 1. Australasia. 2. Polynesia. 3. The islands in the Polar Seas.

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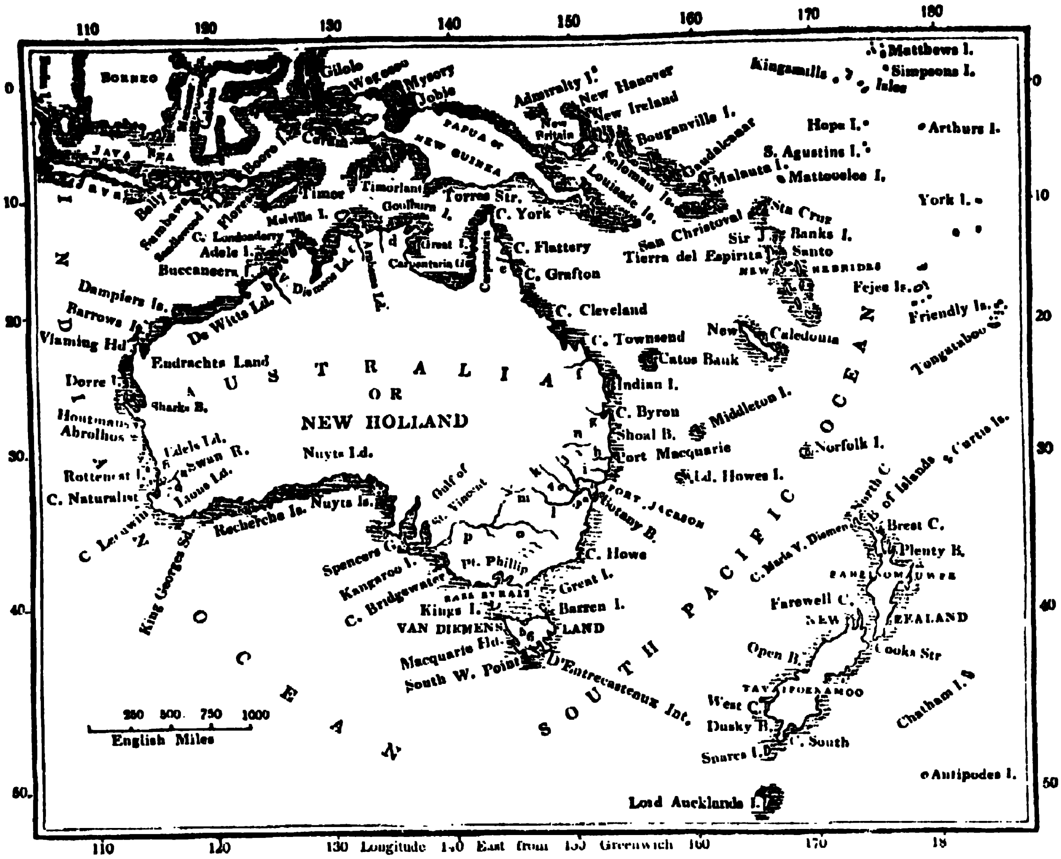
Fig. 878.



References to the Map of Australasia.

1. Sydney
2. Richmond
3. Liverpool
4. Bathurst
5. George Town
6. Hobart Town
7. York
8. Perth.

Rivers.
a Swan
b Prince Regent's
c Alligators
d Liverpool
e Endeavour
f Boyne
g Brisbane
h Hastings
i Hunter's
j Castlereagh
k Macquarie
l Nepean
m Lachlan
Dumaresq
Morrumbidgee
p Murray.

CHAPTER I.

AUSTRALASIA.

Australasia, as already observed, is the name given to an assemblage of huge insular masses of land occupying the western parts of the Pacific, and extending southward from eastern Asia. These great oceanic tracts consist, according to Mr. Barrow, of, 1. New Holland, called often Australia; 2. Van Diemen's Land; 3. New Zealand; 4. Papua, or New Guinea; 5. New Britain, New Ireland; 6. Solomon Islands; 7. New Hebrides; 8. New Caledonia. Of these, New Holland is by far the most extensive, attaining even the importance of a continent; and since, for well-known reasons, a peculiar interest attaches to it and its close appendage of Van Diemen's Land, these will be chiefly regarded in the general description, while the local head will comprehend the other insular regions by which it is encircled.

1. *New Holland.*

Sect. I.—*General Outline and Aspect.*

New Holland, or the continental part of Australasia, may be stated as lying between 10° 30′ and 39° S. lat., and between 112° 20′ and 153° 40′ E. long. Its dimensions are about 2600 miles from east to west, and 2000 from north to south. The superficial content is estimated with difficulty and variously; Freycinet allows little more than 3,000,000 square miles. The late discoveries of Captain King must somewhat modify any calculation, though they affect more the details than the general mass.

The surface of this continent is too extended, and the explored portion too small, to allow us with safety to hazard any general conclusions. The prevailing feature, so far as yet observed, has been barren and wooded plains, traversed by long ridges of precipitous, but not very lofty mountains; and rivers, which often spread into marshes, and do not preserve any course which may be called long when compared with the size of the continent. There are few deep bays; nor does the sea, so far as yet discovered, receive any river whose magnitude corresponds to that of the land. It is still, notwithstanding the spirited efforts lately made, only a corner of the interior of this huge mass of land that is at all known. A great part of this, through the mixture of broad mountain masses and of heavy inundated plains, is rendered unfit for cultivation, and even for travelling. These obstructions, however, do not prevent the occurrence, on a great scale, of fine meadow tracts, where the richest herbage grows spontaneously, and where industry may raise the most plentiful crops.

The mountains of New Holland form a ridge nearly round it, rocky, and in many parts almost inaccessible. The Blue Mountains, in particular, which rise behind the colony, tower up almost like a wall; their cliffs being so steep, and separated by such dreadful abysses, as to have been long considered as presenting a barrier absolutely impassable. It was not till 1813 that a route was discovered through them, which has since been made completely patent. Their highest summits do not appear much to exceed 3000 feet. The western and southern coasts present generally a most dreary, arid, and rocky aspect. Mount Cockburn, a mass of hills at the head of Cambridge Gulf, has a singular appearance, resembling the bastions and ramparts of a fortress. A considerable extent of level and fertile territory has lately been discovered in the vicinity of Swan River. Captain King, however, sailed 600 miles along the northern coast, which he found to present a continuous low and woody tract of shore.

The rivers of New Holland have been the subject of anxious enquiry, as being the channels of its future prosperity. The Hawkesbury, with its tributaries the Grose and the Nepean, is most valuable to the colony, but forms only a stream of secondary magnitude. In the interior, beyond the Blue Mountains, have been traced the Lachlan and the Macquarie, running respectively courses of upwards of 200 and 300 miles. On the east coast are, also, the rivers Williams, Hunter, and Patterson, forming Port Hunter; the Hastings, forming the fine port of Macquarie; and the still larger stream of the Brisbane, falling into Moreton Bay. On the north coast, the only important feature consists of three estuaries which fall into Van Diemen's Gulf, and which were vainly believed to be the termination of the Macquarie. More importance seems to belong to Prince Regent's River, on the north-west coast, which, at the distance of fifty miles from the sea, was found to have a full stream of 250 yards broad; but the marshes of the Macquarie have since been found dried up, and those of the Lachlan to carry that river into the Morrumbidgee, which rises to the westward of the dividing range of the coloured mountains, and, taking a western course of 1000 miles, forms by far the longest river yet discovered, under the name of the Murray, and falls into Lake Alexandrina at Encounter Bay, on the south coast.

Sect. II.—*Natural Geography.*

Subsect. 1.—*Geology.*

Our information regarding the geognosy of New Holland and Van Diemen's Land is extremely meagre. In Dr. Fitton's memoir, appended to Captain King's Voyage to Australia, are the following notices in regard to the rocks:—

1. *Granite.* Cape Cleveland; Cape Grafton; Endeavour River; Lizard River; round hill near Cape Grindall; Mount Caledon; island near Cape Arnheim; Melville Bay; Bald Head; King George's Sound.—2. *Mica Slate.* Mallison's Island.—3. *Talc Slate.* Endeavour River.—4. *Hornblende slate.* Pobasoos River; Half-way Bay; Prince Regent's River.—5. *Granular quartz.* Endeavour River; Montague Sound, north-west coast.—6. *Quartzy conglomerates and ancient sandstones.* Rodd's Bay; islands of the north and north-west coasts; Cambridge Gulf; York Sound; Prince Regent's River.—7. *Limestone,* resembling in the character of its organic remains the mountain limestone of England. Interior of New Holland; near the east coast; Van Diemen's Land.

The coal formation. East coast of New Holland; Van Diemen's land. The coal formation on the east coast has been traced from Botany Bay more than one hundred miles to the north; and it extends nearly the same distance into the interior, the position where it has been most particularly examined being on the branches of Hunter's River. The coal is worked at Newcastle. Ironstone is found along with the coal, and ores of this metal, particularly bog iron ore, occur in considerable quantity in different parts of New Holland.

Fossil wood in coal formation. In our lectures on organic remains, when discussing the subject of fossil trees, we have strongly recommended to our hearers the importance of characters of distinction for geognostical groups of plants from internal structure, and recommended them to examine all fossil woods and even recent wood in order to obtain such characters. Fortunately, one of our pupils, Mr. Nicol, well known for his extreme accuracy, took up the subject, and, after much labour, succeeded in contriving a very elegant and satisfactory method of obtaining views of the internal structure of fossilised woods. This method is explained in Mr. Witham's work, entitled "Observations on Fossil Vegetables," and is followed by him in his mineral dendrological researches, and now by all the investigators in this department of geology on the Continent. We put into the hands of Mr. Nicol specimens of fossil woods sent us by our active and intelligent friend, Colonel Lindsay, and by Mr. Burnet, from the coal formation in New Holland. Thin transverse sections of each were made, which, on being viewed by help of the microscope, or even a common pocket lens, displayed such structures as to show that five of the specimens examined belonged to the family of Coniferæ, and two to the tribe of true Dicotyledons. Four of the Coniferæ are common woodstone; the fifth is wood opal. One of the dicotyledonous specimens is woodstone, and shows the organic structure throughout the whole mass; but the other specimen, which is in the state of opal, shows the organic structure only in certain parts of the mass. Specimens of fossil wood from Van Diemen's Land were also examined, which proved to be Coniferæ.

Fossil bones. Through the exertions of Major Mitchell, Mr. Rankin, Dr. Lang, and Colonel Lindsay, many interesting fossil bones have been forwarded to the Edinburgh Museum, which have been determined by our labours, and those of Cuvier, Pentland, Cliff, and Adam. These relics were found in limestone caves in Wellington Valley, New Holland; and in the first collection sent to Edinburgh were bones of the following animals:— 1. Dasyurus, or Devil of the colonists, one species; 2. Hypsiprymnus, or Kangaroo Rat, one species; 3. Macropus, or Kangaroo Proper, three or four species; 4. Halmaturus, two species; 5. Phascolomys, or Wombat, one species; 6. Elephant, one species. Mr. Pentland remarks, in regard to these bones, 1. That of these nine animals, only two species of kangaroo do not differ in their anatomical characters from species, inhabiting the same continent; whereas there is reason to suppose that the seven remaining species differ from all those hitherto known to zoologists, and that some of them belong to extinct species. 2. That, with a single exception, all the genera to which these bones are referable are now found inhabiting the Australian continent; a remarkable coincidence with the fossil animals of the same geological epoch in Europe, where, with few exceptions, the animals which have been found in what have been called Diluvial Deposits belong to genera still inhabiting our countries. 3. That the elephant was an inhabitant of New Holland at a very remote period, as it appears to have been not only of every part of the Old World, but of the American continent. In the Edinburgh Philosophical Journal for January, 1833, Mr. Pentland, in a letter to Professor Jameson, says:—"Since I transmitted you the notes on the fossil remains from New South Wales, I have had occasion to examine another collection presented to Cuvier by Major Mitchell, from the same locality as Wellington Valley. In my former communication, I stated that the fossils you submitted to my examination were referable to nine distinct species of Mammalia, belonging, with a single exception, to the order Marsupialia. The specimens sent to Baron Cuvier enable me to add five more species to the list: viz. two species of Dasyurus, one of which does not seem to differ from the D. Macrourus of Geoffroy; a small species of Perameles; a species of kangaroo, of the sub-genus Halmaturus, and certainly very different from every known species of this genus; a small animal of the order Rodentia, belonging to a new genus, and of which the bones are scattered in immense abundance in certain portions of the osseous breccia; and a saurian animal, nearly allied to the genus Gecko, but which the incomplete nature of the fragments I have examined, prevents my determining more accurately. A careful examination of the specimens of Major Mitchell's collection leaves no doubt that the bones of most of the animals collected in these caves were transported thither by carnivorous animals, as in the bone-caves of Yorkshire, of Germany, France, &c. I have discovered several fragments evidently ground and worn down under the teeth of small carnivorous animals; and among nearly 100 specimens of long bones, still enveloped in their stalactitic crust, I have not found one to which the epiphysis remains attached, although in adult subjects; an evident proof of their having been gnawed off by the animals which formerly inhabited these recesses. What these animals were, it is easy to guess from the catalogue already given."

Indications of the new red sandstone (red marl), afforded by the occurrence of salt. Van Diemen's Land.

Oolite limestone. Van Diemen's Land.

Rocks of the trap formation.—1. *Serpentine.* Port Macquarie; Percy Isles.—2. *Syenite* (greenstone). Rodd's Bay.—3. *Porphyry.* Cape Cleveland.—4. *Porphyritic conglomerate.* Cape Clinton; Percy Island; Good's Island.—5. *Compact felspar.* Percy Island; Repulse Bay; Sunday Island.—6. *Greenstone.* Vansittart Bay; Bat Island; Careening Bay; Malus Island.—7. *Clinkstone.* Morgan's Island; Pobasoos Island.—8. *Amygdaloid with calcedony.* Port Warrender; Half-way Bay; Bat Island; Malus Island. —9. *Wacke.* Bat Island.

Alluvial deposits. Upon the coast in many places there are extensive alluvial deposits, which are often calcareous, abounding in the shells of the neighbouring sea. These occur under the sea, at the sea level, and sometimes considerably above high water, which latter position is to be attributed to the upraising of the land through subterranean agency. Pipe-clay and potters' clay occur abundantly. No volcanoes have been met with. Topaz is the only gem, and agate is the principal ornamental stone mentioned by authors. The ores have been but little noticed.

Subsect. 2.—*Botany.*

In New Holland, which constitutes an island so vast in extent and so separated from every other continent, as to rank as one of the great divisions of the globe, every thing relating to natural history is wonderful: its quadrupeds, its birds, its insects, and last, but not least in point of singularity, its vegetable productions,—all are, comparatively speaking, new; yet, what is truly remarkable, a very small portion of the latter have been ascertained to be useful in any way, and almost none to produce esculent fruits. "It is New Holland," says Mr. Barron Field, "where it is summer with us when it is winter in Europe, and *vice versâ;* where the barometer rises before bad weather, and falls before good; where the north is the hot wind, and the south the cold; where the humblest house is fitted up with Cedar (*Cedrela Toona*); where the fields are fenced with Mahogany (*Eucalyptus robusta*); and Myrtle trees (*Myrtaceæ*) are burnt for fuel; where the Swans are black, and the Eagles are white; where the Kangaroo, an animal between the squirrel and the deer, has five claws on its fore paws, and three talons on its hind legs like a bird, and yet hops on its tail; where the Mole (*Ornithorhynchus paradoxus*) lays eggs, and has a duck's bill; where there is a bird (*Melliphaga*) with a broom in its mouth instead of a tongue; where there is a Fish, one-half belonging to the genus *Raia* and the other to that of *Squalus;* where the Pears are made of wood (*Xylomelum pyriforme*), with the stalk at the broader end; and where the Cherry (*Exocarpus cupressiformis*) grows with the stone on the outside."

Our green-houses and conservatories have rendered us so familiar with the appearance and names of a great variety of New Holland productions (for however unimportant as food, in the arts, or in domestic economy, they are peculiarly interesting to the botanist,) that the general appearance of its vegetation may be understood by observing that the great mass of it belongs to the natural orders Proteaceæ, Epacrideæ, Myrtaceæ, Leguminosæ, and Compositæ; and that these have such harsh, and narrow, and lurid, though evergreen foliage, that instead of the majestic forests of the New World, or the delicate gracefulness and elegance of those of Asia, or the fresh and varying charms of those of Europe, they present a sombre, and melancholy appearance. "A part of their economy," says Brown, "and which contributes somewhat to the peculiar character of the Australian forests, is, that the leaves both of the Eucalyptus and Acacia, by far the most common genera in Terra Australis, and if taken together, and considered with respect to the mass of vegetable matter they contain (calculated from the size as well as the number of individuals), nearly equal to all the other plants of that country, are vertical, or present their margin, and not either surface towards the stem, both surfaces having consequently the same relation to light." And Leschenault assures us, that even the grasses, which in other countries are soft and flexible, here partake of the rigidity of the other plants, as may especially be seen in the Uniola distichophylla of La Billardière, and in Festuca, whose leaves resemble so many needles. Those who wish, however, to obtain a more full acquaintance with the botany of New Holland than can be expected from a work of this nature, may consult the writings of La Billardière, Brown, Cunningham, Leschenault, and Freycinet. We must be satisfied with mentioning some of the more interesting plants.

In the extensive genus Eucalyptus, of which considerably above 100 species have been detected, most of the individuals are trees, and some of them remarkable for their great, and others for their enormous, dimensions. Eucalyptus globulus of La Billardière, and another species found by Mr. Brown at the south end of Van Diemen's Land, not unfrequently attain the height of 150 feet, with a girth, near their base, of 25 to 40 feet. In the colony of Port Jackson are also several species of great size, but none equal to those of Van Diemen's Land; and no very large trees of this genus are seen, either in the south-west or the equinoctial part of New Holland. The natives distinguish and apply proper names to nearly fifty kinds which grow about Port Jackson: these they recognise by their colour, texture and the scaling of the bark, by the ramification and general appearance, more readily than botanists have yet been able to do. The beautiful genus Melaleuca, too, of the same natural order, yields very numerous species.

Among the Leguminosæ, Mr. Brown observes, is a most extensive tribe or group of the Mimosas of Linnæus, Acacia (*fig.* 879.) of Willdenow, described as having simple leaves, but being in reality aphyllous; the dilated foliaceous footstalk performing the functions of the true compound leaf, which is produced only in the seedling plant, or occasionally in the more advanced state, in particular circumstances, or where plants have been injured. The great number of species of Acacia having this remarkable economy in Terra Australis, forms one of the most striking peculiarities of its vegetation. Nearly 100 species have been observed, very generally diffused over the whole country. But while the leafless Acaciæ are thus numerous and general here, they appear to be very rare in other parts of the world, only seven additional species having been found elsewhere. Another considerable group of the same order consists of such as have free (not combined) stamens in their papilionaceous flowers.

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Acacia.

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Telopea Speciosissima.

Among the Compositæ is a considerable number with dry and everlasting flowers, which Mr. Brown names Gnaphaliadeæ. Goodenoviæ, of the same author, is a distinct natural order, approaching Lobelia. The genus Stylidum, belonging to another allied order, is very curious in the structure of its flowers, possessing the peculiar property of having the column, or the support of anthers and stigma, endowed with an irritability of so active a kind, that we hardly know of any parallel in other plants. The slightest touch of a pin on the outside of it, when curved, is sufficient to make it leap to the opposite side of the flower, and invert the whole of its highly curious apparatus for propagation. It is said that this motion is designed for the protection of those parts from insects; an explanation which, like many others applied to the peculiarities of the vegetable kingdom, is, perhaps, more fanciful than true, and which only serves to show how little we are able to comprehend of the mysteries of the vegetable world.

The genus Epacris, with its allied genera, seems to be almost as numerous, and to hold the same rank in New Holland, as the Heaths do at the Cape.

No plants of New Holland are more sought after by collectors, or more prized for their varied foliage and lovely flowers than the Proteaceæ; and of these the most beautiful, if we except the Waratah (*Telopea speciosissima* (*fig.* 880.) has been consecrated to the earliest investigator of the natural history of the country, the friend and companion of Cook, Sir Joseph Banks. "Upwards of 400 species of this order," says Mr. Brown, in the botany of Flinder's voyage, "are at present known: more than half of these are natives of Terra Australis[*], where they form one of the most striking peculiarities of the vegetation. Nearly four-fifths of the Australian Proteaceæ belong to the principal parallel, in which, however, they are very unequally distributed; the number of species at its western extremity being to those of the eastern as two to one; and, what is much more remarkable, the number, even at the eastern extremity, being to that of the middle of the parallel as at least four to one. From the principal parallel the diminution of the order in number of species is nearly equal in both directions; but while no genus has been met with in the tropic, which does not also exist in the principal parallel, unless that section of Grevillea having a woody capsule be considered as such, several genera occur at the south end of Van Diemen's Island, which appear to be peculiar to it. No Australian species of the order Proteaceæ has been observed in any other part of the world; and even all its genera are confined to it, with the exception of Lomatia, of which several species have been found in South America; and of Stenocarpus, the original species of which is a native of New Caledonia."

The genus Casuarina is very remarkable, having branches which appear jointed, like the stem of an Equisetum. Its maximum appears to exist in Terra Australis, where it forms one of the characteristic features of the vegetation. Thirteen Australian species have already been discovered; the greater number of these are found in the principal parallel, in every part of which they are almost equally abundant. In Van Diemen's Island the genus is less frequent, and within the tropic it is comparatively rare; no species, except C. equisetifolia, having been observed on the north coast of New Holland. Beyond Terra Australis only two species have been found, namely, C. equisetifolia, which occurs on most of the intratropical islands of the southern Pacific, as well as in the Moluccas, and exists also on the continent of India; and C. nodiflora, which is a native of New Caledonia.[†]

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[*] Mr. Brown has made an addition to the number, of upwards of 160 species, in the Supplement to his *Prodromus Floræ Novæ Hollandiæ*.

[†] Mr. Allan Cunningham, in King's Voyages.

Of the Coniferæ, the Phyllocladus rhomboidalis of Richard (*Podocarpus asplenifolia* of La Billardière) forms a new genus. Callitris is quite peculiar to New Holland; and the famous Araucaria excelsa (*fig.* 881.), reckoned among the loftiest trees in the world, which was first found in Norfolk Island and New Caledonia, has been ascertained, by Mr. Cunningham, to extend from Mount Warning on the east coast, in lat. 29° S., thence sparingly towards the tropic, within which, however, it is very abundant, forming upon several islands the only timber. This is, probably, the nearest approach of the species to the equinoctial line; and, although it occupies an area of 900 miles, it is very probably limited, in Terra Australis, to its immediate shores, and, as appears to be the case with Pandanus, exists only within the influence of the sea air.

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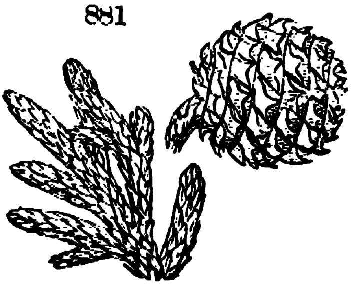

Araucaria Excelsa.

The Orchideæ are in great variety, and highly curious in the extratropical parts of New Holland, and are chiefly terrestrial.

Notwithstanding that so large a portion of New Holland is intratropical, and with a climate so well suited to their growth, it is wonderful how deficient the country is in Palms; which can only be accounted for, according to Mr. Cunningham, by the great tendency to drought of at least three-fifths of its shores. Only six species of this order are enumerated by Mr. Brown, belonging to three genera, Corypha, Seaforthia, and Livingstonia: to which, according to Mr. Cunningham, Calamus may now be added, one species having been detected, bearing fruit, in the vicinity of Endeavour River. The Corypha australis extends to lat. 24° S., and this is nearly the southern limit of the order in this country. Upon the north-west coast, the genus Livingstonia has alone been met with, in lat. 15°; but along the whole of the west side, no other palm appears to grow.

Among the Asphodeleæ of Terra Australis, the genus Xanthorrhœa is considered one of the most remarkable in habit, giving a peculiar aspect to the vegetation of the district where it abounds, which extends to the south end of Van Diemen's Island, and is also found within the tropic. All the species yield a gum resin. The X. arborea is the Yellow Gumtree of White's History of New South Wales, and is described as attaining the size of a walnut tree, growing pretty straight for about fourteen or sixteen feet, after which it branches out into long spiral leaves, which hang down on all sides, and resemble those of the larger kinds of grass or sedge. From the centre of these leaves springs a single footstalk, eighteen or twenty feet high, perfectly erect, resembling the sugar-cane, and terminating in a spiral spike, not unlike an ear of wheat. This large stem, or footstalk, is used by the natives for making spears and fish-gigs, being pointed with the teeth of fish or other animals. But the most valuable produce of this plant appears to be its resin, the properties of which vie with those of the most fragrant balsams. This resin exudes spontaneously from the bark, and still more readily from incisions: it is of a yellow colour, fluid at first, but being inspissated in the sun it acquires a solid form; burnt on hot coals it emits a smell somewhat like storax. It is perfectly soluble in spirit of wine, but not in water, nor even in essential oil of turpentine, unless digested in a strong heat, and the varnish it affords is of little strength or use. It was found by Mr. White to be a good pectoral medicine, and very balsamic. It is not obtainable in such large quantitities as the Red Gum produced by Eucalyptus resinifera.

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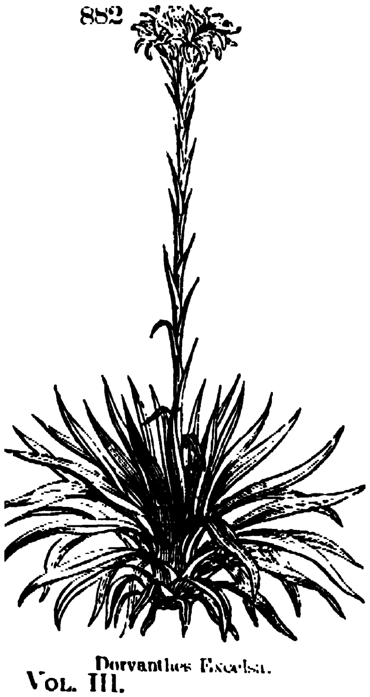

Doryanthes Excelsa.

Doryanthes excelsa (*fig.* 882.), or the New Holland Lily, is, without any question, the most stately of the Nobiles of the vegetable kingdom, as Linnæus called the order Amaryllideæ. In green-houses this plant has flowered, and attained a height of twenty-four feet, bearing at its summit a crown of blossoms of the richest crimson, each six inches in diameter. The leaves are very numerous, sword-shaped, and many of them six feet long.

The Cephalotus follicularis (*fig.* 883.) is a most singular plant, belonging, indeed, to the natural order Rosaceæ, but having, among its leaves, Ascidia, or pitcher-shaped bodies, with a lid to them, very similar to the appendages of the well-known Nepenthes, which it resembles, however, in no other particular. These Ascidia, or Pitchers, were observed to be in general nearly half filled with a watery fluid, in which great numbers of a small species of ant were frequently found drowned. This fluid, which has a slightly sweet taste, may perhaps be in part a secretion of the pitcher itself, but more probably consists merely of rain-water received and preserved in it. The lid of the pitcher, in a full-grown state, was found either accurately closing its mouth or having an erect position, and therefore leaving it entirely open; and it is not unlikely that the position of the lid is determined by the state of the atmosphere, or even by other external causes.

We must not entirely omit a singular and interesting plant lately discovered in New Holland, producing fruit larger than a Spanish chestnut, by which name it is known. It is the Castanospermum australe, of which a figure and description are given in Hooker's Botanical Miscellany, vol. i. p. 243. t. 51, 52. The pods are large, solitary, and pendent, containing from three to five large seeds; the foliage is beautifully green and pinnated, and the shade afforded by the whole tree excels that of any in New South Wales. By the natives the fruit is eaten on all occasions. It has, when roasted, the flavour of a Spanish chestnut; and Europeans, who have subsisted on it exclusively for two days, experienced no other unpleasant effect than a slight pain in the bowels, and that only when the seeds were eaten raw.

At the time when Mr. Brown estimated the Australian Flora at 4200 species (in 1814, and many more have since been discovered), they were referable to 120 natural orders; but so great is the predominance of certain tribes, that full half of the number just alluded to belong to eleven orders. The Leguminosæ and Compositæ comprehend one-fourth of all the Dicotyledonous plants, while the Grasses form an equal part of the Monocotyledonous ones. About one-tenth only of these has been observed in other parts of the world. Of the Cryptogamic plants, by far the greater number are natives of Europe. Among those, however, that are peculiar to New Holland, some are very beautiful and curious: we may particularly instance, among the Sea weeds, Claudea elegans (*fig.* 884.); among the Mosses, Dawsonia polytrichoides (*fig.* 886.), which has the leaves of a Polytrichum and the inclined capsule of a Buxbaumia, but is terminated by a beautiful tuft of white silvery hairs for a peristome; and among the Lichens, the Cenomyce retispora (*fig.* 885.), whose frond is perforated like the most delicate lace.

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Cephalotus Follicularis.

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Claudea Elegans.

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Cenomyce Retispora.

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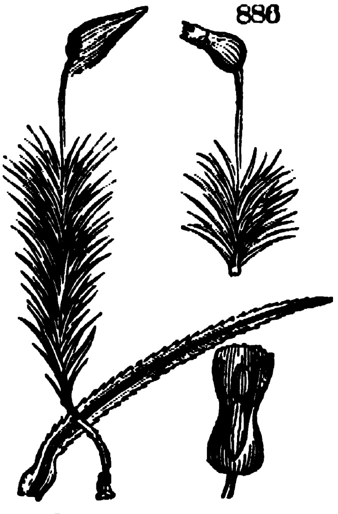

Dawsonia Polytrichoides.

887

Phormium Tenax.

We mention **New Zealand**, for the sake of making some remarks on a most valuable plant, which was originally detected by Sir Joseph Banks, during Cook's first voyage, in 1770, the *Phormium tenax* (*fig.* 887.) or New Zealand Flax. It serves the inhabitants instead of hemp or flax, and excels all that is applied to the same purposes in other countries. There are two sorts of this plant: in both the leaves resemble Flags, but the flowers are smaller and their clusters more numerous; in one kind they are yellow, and in the other deep red. Of the leaves of the Phormium, with very little preparation, the natives make all their common apparel, as well as their strings, lines, and cordage of every description, which are so much stronger than any thing we can fabricate with hemp, as not to bear a comparison. From the same plant, by another process, they draw long slender fibres, which shine like silk, and are as white as snow: of these, which are also surprisingly strong, the finer cloths are manufactured; and of the leaves, without any other preparation than splitting them into proper breadths, and tying the strips together, they make their fishing-nets, some of which are of enormous size. A plant which might be applied with such advantage to so many useful and important purposes, would certainly be a great acquisition to our country, where it would probably thrive with very little trouble, as it seems to be hardy, and affects no particular soils, being equally found in hill and valley, in the driest mould and the deepest bogs: the bog, however, it seems rather to prefer, as near such places it grows larger than elsewhere. Since the discovery of the Phormium tenax in New Zealand, many experiments have been made, which all prove the great strength and value of its fibre, which is now extensively used in New Holland for cordage, and imported for the same purpose to Europe. In the South of France, in Devonshire, and in other districts possessing a similar climate, it grows perfectly well in the open air, and has even survived the winter on the coast of Inverness-shire. But all the attempts that have been made to separate the fibre from the leaf of the New Zealand Flax, which it is requisite to do in a fresh state, as maceration is found materially to injure the strength of the thread, have proved unsuccessful. The native women perform this apparently simple operation with ease and quickness: holding the end of a newly cut leaf with their toes, they insert a shell between the green substance and the fibre, and readily effect the separation by drawing this shell through the whole length of the leaf. No machinery or other process has been found capable of thus dividing the thread, which undergoes no farther preparation, no hackling or cleaning, previous to being shipped for the English market by the Port Jackson traders, who must apparently still depend on the savage women and their shells for the cargoes they obtain! A representation and full account of this interesting plant are given in the Botanical Magazine for December, 1832, to which we must refer our readers.

Subsect. 3.—*Zoology.*

Australasia.—The Zoology of the Southern Archipelago is more singular than beautiful, and is much more calculated to arrest attention from the peculiar habits and structure of the subjects themselves, than from the elegance of their forms, or the richness of their colours. Australasia has been termed the land of contrarieties; as if nature, in the creation of such forms as she appropriated to this region, had determined to mark them with some peculiar character inconsistent with those rules she had adopted in the formation of all her other productions. That form, for instance, which in other parts of the world she has confined to the smallest races of quadrupeds—the rats and the dormice—is here bestowed upon the Kangaroos, the largest tribe of four-footed animals yet discovered in this insular continent; but these wonderful creatures, instead of fabricating warm and skilful nests beneath the earth for the protection of their young, in like manner to all other mouse-like quadrupeds, are provided with a natural nest in the folds of their own skin, where the young are sheltered and protected, until they are able to provide for themselves. The Great Kangaroo (*Halmaturus giganteus* Ill.) (*fig.* 888.) is, in fact, the largest and most typical quadruped of the whole Australasian range: the total absence of such animals as lions, tigers, deer, oxen, horses, bears; in short, of all those races spread over the rest of the world, is the most striking feature in the zoology of this region. It is further remarkable that nearly all the quadrupeds either actually belong or are intimately related to the Glires of Linnæus. Two-thirds of the Australasian quadrupeds make their way by springing in the air. All the Kangaroos, when using any degree of speed in their movements, proceed by prodigious leaps, while the Flying Phalangers or Opossums (*G. Petaurista*), of which six species are described, are even more remarkable for this habit than the Flying Squirrels of North America. We might almost be tempted to believe that, if there really exists, in creation, an animal which would at once indisputably connect the two great divisions of the vertebrata, and demonstrate their union, such an animal will be hereafter discovered in the southern hemisphere. The Ornithorhynchus, or Ducksbill, may be justly said to exhibit more decided indications of such a union than any quadruped yet known, and this is also a native of New Holland.

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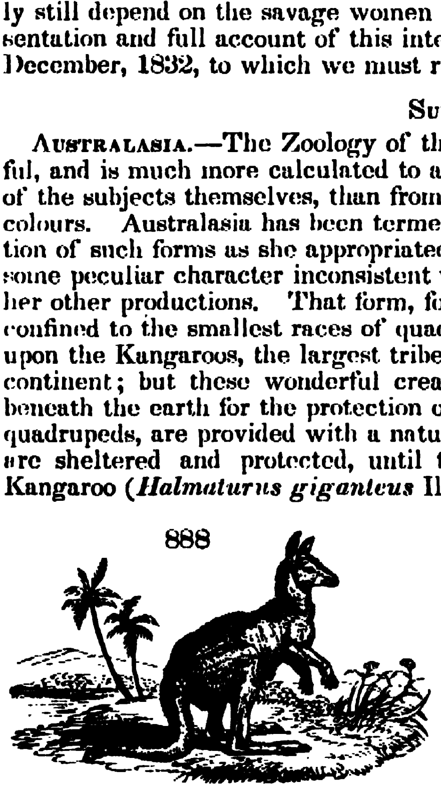

Kangaroo.

On quitting the zoological province of Asia, the paucity of large quadrupeds is first apparent in the islands of New Guinea and New Caledonia, where, it may be remembered, in our preliminary observations, we supposed the first indications of the Australasian forms began to be developed. M. Lesson discovered several small animals in those islands (referred by him to the genus Cuscus) which exhibit a manifest affinity to the New Holland phalangers; while of edible domestic animals, the Hog alone (of a peculiar breed, or more probably species) is to be found generally distributed through the Pacific islands. The Dogs are also peculiar: small, and wolf-like, they appear to want all those generous and sagacious qualities which are so conspicuous among the breeds distributed over more civilised countries.

The ornithological productions of this hemisphere are equally interesting, and, from being more numerous than the quadrupeds, offer a wider field for geographic comparison. We have already devoted some attention to this part of our subject, when pointing out the natural relations of the Australasian groups with those of the Indian Archipelago and of Southern Africa. It is, therefore, unnecessary again to recapitulate the proofs in favour of such affinities. The rapacious birds are by no means excluded from this region, although it is a matter of doubt whether any genuine species of vulture has yet been discovered. The largest bird of prey we yet know of is the Wedge-tailed Eagle (*fig.* 889.), equal in size to the Golden, but having the legs feathered to the toes: several of the Hawks are altogether peculiar; among which is one entirely white; and there is reason to believe that the geographic range of the Peregrine Falcon of Europe (the Greatfooted Falcon of the Americans), actually extends to New Holland. The mild temperature of the climate renders the services of Vultures unnecessary; but we are still to learn what agency is substituted for the removal of carrion and dead animal matter. The few nocturnal birds belonging to the families of Owls and Goatsuckers differ not from the European types, except, indeed, the large ***Podargi***, or Great-billed Goatsuckers.

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Wedge-Tailed Eagle.

Among the perching tribes, the beautiful parrots, cockatoos, and parrakeets, demand our first attention, as being by far the most attractive and brilliant in their plumage. The genuine parrots, with a perfectly even tail, are very few: indeed, we know not at present of more than one species, the ***Psittacus Fieldii*** Sw. The Cockatoos, which first appear in Southern India, extend also to New Holland. Some of the species are white; the rest are of a black colour, richly variegated on the tail with red, as exemplified in the Crimson-tailed Cockatoo (***P. Cookii***) (*fig.* 890.): they are of a large size; but a species lately discovered is no bigger than a small parrakeet: this group has not yet been traced in any of the South Sea islands. The Lories are also numerous, but belong to a different section from those of India: green, and not red, is the predominating colour of their plumage. Besides such as are only to be found in New Holland and Van Diemen's Land, several others of a very small size are locally distributed in the lesser islands. The Ground Parrakeets and those with broad tails (***Pezoporus*** Ill., ***Platycercus*** V. & H.) likewise characterise these islands.

890

Crimson-tailed Cockatoo.

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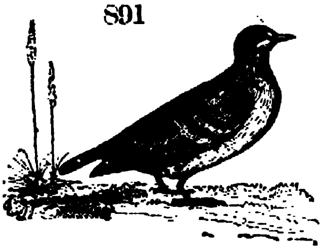
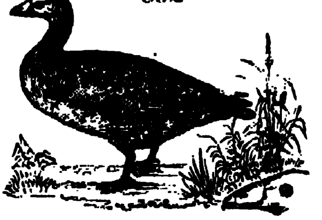


Bronze-winged Pigeon.

892



Cereopsis.

The insectivorous birds, strictly speaking, are comparatively few; but it still remains to be ascertained whether the suctorial tribe, formed by the Honeysuckers (***Melliphagidæ*** V.), do not also derive nourishment from small insects, concealed in the flowers, whose juices they suck by their brush-like tongue. This supposition appears highly probable, since we can attest, from personal observations, that such is the habit of nearly all the humming-birds of America. The Scansorial Creepers are of only two species, and no birds have yet been discovered similar or analogous to the genuine woodpeckers. The Toucans find their representative in the New Holland Channel-bill (*Scythrops* Ill.); but the Cuckoos and Orioles are not much unlike those of Africa, Asia, and Europe. The Pigeons and Doves are certainly the most beautiful in the world; the general tint of their plumage is a rich green, variegated with red, purple, or yellow about the head and breast; but others occur of a brown colour, relieved by spots on the wings of the richest and most changeable colours, equal in brilliancy to the finest gems. The Bronze-winged Pigeon (*fig.* 891.) is a well-known example of this group, which comprehends several other species. The Chatterers of America seem represented by the Thick-heads (*Pachycephala* Sw.); the Grakles of India and Africa, by the Satin-birds (*Ptilonorhynchus* Kuhl.); and there is one species of Crow, which lives solitary: lastly, the Flycatchers and Warblers very nearly resemble those of Africa, and even present us with two species belonging to European genera. There does not appear to be any sparrows, the parrakeets being the universal devastators of grain, and the pests of the farmer. Two or three small finches of Indian genera (*Amadina*, *Estrelda* Sw.) correspond to the European goldfinch.

The paucity of gallinaceous birds is also evident. The great Emu or New Holland Cassowary, appears to have the same economy as that of America. To this order we refer that singular bird the Lyretail (*Menura superba* L.) already noticed.

The Aquatic tribes belong, for the most part, to groups found in other countries; but the genus *Cereopsis* (*fig.* 892.) occurs only in New Holland: it is of a light gray colour, as big as a goose, and the only example of this form. The Vaginalis, or Sheathbill, seems more peculiar to the Pacific islands. There are, no doubt, many waders and swimmers not yet known to naturalists, for wildfowl are frequently mentioned by travellers as by no means scarce. Oceanic birds, particularly Gulls, Petrels, and Pelicans, may naturally be supposed to abound over such a wide extent of ocean.

The Entomology of New Holland, in regard to species, has been illustrated by Donovan, and still more ably by Lewin, who studied the Lepidoptera in their different stages, and engraved the subjects on the spot. But from neither of these works can any general views be acquired on this portion of Australasian zoology; and, unfortunately, such can only be taken by those higher naturalists, who direct their attention to the philosophy of the science. Judging from the collections transmitted to England, we deem the number and variety of insects, in comparison to the size of New Holland, much fewer than might have been expected: the Coleopterous tribes have a more insulated character than those of the Lepidoptera; as the latter, both in genera and in species, show a decided approximation to those of Africa and India, without having exhibited, as yet, a single American species. The insects of the smaller Pacific islands may be considered as unknown, it being impossible to understand their true forms or affinities from systems now obsolete.

The Snakes and Reptiles offer no subject of popular interest, although some of the New Holland lizards and serpents are very curious. Fish, as may be expected, are plentiful.

The Shells of the Southern Ocean are peculiarly attractive, and yield only to those of the Indian seas. It is here that the family of Volutes (*Volutidæ* Sw.), so highly prized by collectors, is chiefly found. An attentive investigation of this charming group has enabled us to detect, in the distribution of the different genera, an exemplification of those laws to which nature is found to have adhered in every portion of her works which have been philosophically scrutinised. The pre-eminent type of this family is the genus Voluta, comprising the melon-shells of collectors: and we accordingly find it has an almost general dispersion over the temperate parts of the old world. Voluta olla is found in Spain; V. cymbium, with several others, in Africa; V. æthiopica, tessellata, &c. in India; while V. umbilicata, and probably some others, occur in New Holland: here, however, this typical group ceases; while that of Cymbiola *Sw.*, which comprehends the Music volutes, appears in its full typical character. The C. magnifica *Sw.*, the largest of the genus, is chiefly found in the Australasian seas, and this form extends throughout the South Sea islands. The third type, composed of the Harp volutes (*Harpula* Sw.), and the fifth, (*Scaphella* Sw.), under which is included the lovely Volutes, named Junonia, Zebra, maculata (*fig.* 893.), &c., exclusively belong to the Pacific Ocean. The Cones, so abundant in India, have not been discovered in these seas; and only two or three cowries, of rare species, have yet been sent to Europe. The marine genus Struthiolaria is also restricted to this ocean. The elegant genus Phasianella, or Pheasant Snail, is another group, principally confined to New Holland, where these beautiful shells occur, in some localities, in great profusion, and in endless variety of markings.

893

Scaphella Zebra. S. maculata.

The Fluviatile species are limited to a few plain-coloured bivalves and Nerites; while the land shells are still more rare. The conchology of the South Seas, however, offers a rich field for future discoveries.

The following are the only genera and sub-genera of quadrupeds belonging to this part of the world:—

Didelphis *Auct.*
Dasyurus *Cuv.*
Perameles *Shaw.*
Thylacinus *Tem.*
Phalangista *Cuv.*
Balentia *Ill.*
Petaurista *Cuv.*
Hypisprymnus *Ill.*
Halmaturus *Ill.*
Phascolarctos *Ill*
Phascolomys *Geoff.*
Echidna *Cuv.*
Ornithorhynchus *Blum.*

The peculiar genera of birds, with the sections or sub-genera(*), are all comprised in the following list:—

Podargus *Cuv.*
***Ægotheles** *H. & V.*
***Steatornis** *H. & V.*
Dacelo *Leach.*
Falcunculus *Vieil.*
Vanga *Buf.*
Malurus *Vieil.*
***Acanthiza** *H. & V.*
Pardalotus *Vieil.*
Pachycephala *Sw.*
Grallina *Vieil.*
Sericulus *Sw.*
Petroica *Sw.*
Ptilonorhynchus *Kuhl.*
Scythrops *Latham.*
Plyctolopha *Vieil.*
***Calyptorhynchus** *H. & V.*
Psittacarus *Briss.*
***Nanodes** *H. & V.*
***Leptolophus** *Sw.*
***Platycercus** *H. & V.*
***Pezoporus** *Ill.*
***Palæornis** *H. & V.*
Lorius *Briss.*
***Trichoglossus** *H. & V.*
Climacteris *Tem.*
Orthonyx *Tem.*
***Sittella** *Sw.*
Dicæum *Cuv.*
Philedon *Cuv.*
Melliphaga *Lewin.*
Ptiloris *Sw.*
***Ptilonopus** *Sw.*
Dromiceius *Vieil.*
Menura *Lath.*
Megapodius *Tem.*
Chionis *Forst.*
Cereopsis *Lath.*

The following genera and sub-genera of birds occur also in India or Africa, or in both:—

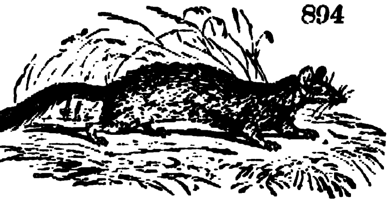
Merops *Lin.*
Chætura *Stev.*
Collaris *Cuv.*
Halcyon *Sw.*
Ocypterus *Cuv.*
Edolius *Cuv.*
Ceblepyris *Cuv.*
Pitta *Vieil.*
Oriolus *Lin.*
Gryllivora *Sw.*
***Campicola** *Sw.*
Estrelda *Sw.*
Amadina *Sw.*
Glaucopis *Forst.*
Ptilinopus *Sw.*
Mycteria ? *Lin.*
Porphyrio *Briss.*
Burrhinus *Ill.*
Aptenodytes ? *Forst.*
Phaeton *Lin.*

NEW HOLLAND.—The zoological features already sketched of the Australasian range apply with particular force to New Holland, as being the chief metropolis of this zoological province. It is, therefore, only necessary, in this place, to enumerate a few of the most remarkable animals yet discovered on this insulated continent.

Of the Marsupial or Pouched Quadrupeds, the Great Kangaroo (*Halmaturus giganteus* Ill.) is the most conspicuous. Although a native of regions so distant, it is now become a common animal in the menageries. The remarkable shortness of the anterior feet shows that they cannot properly be used for walking; an imbecility of structure, however, amply compensated by the great development of the hinder feet: the former are used when the animal is browsing, but when it wishes to proceed with the least activity, and especially to run, the strength of its hind feet and enormous tail gives it the power to take surprising leaps, and thus easily to escape its enemies. The Kangaroos live in small troops, headed by the old males. No less than eight species of this genus have been discovered in New Holland; that named H. elegans is the only one with a variegated fur, the back being marked with transverse stripes.

The Hair-tails (*Dasyurus* Ill.) are a peculiar race of quadrupeds, allied both in habits and appearance to the polecat and marten: they may, in reference to their food, be ranked as beasts of prey, since they sleep during the day, and only steal forth in the night, searching for smaller animals and the bodies of dead seals. They receive their name from their long bushy tail, not unlike that of a fox. The Tapu-tafa (*Dasyurus tafa*) (*fig.* 894.) is an elegant example of this tribe.

894



Tapu-tafa.

895

Ornithorhynchus.

The Duckbills (*Ornithorhynchus*) (*fig.* 895.) long excited the scepticism and the astonishment of naturalists; who beheld in these creatures the perfect bill of a duck, engrafted, as it were, on the body of a mole-like quadruped. It was first made known to the world by Dr. Shaw, who clearly demonstrated it was no fictitious deception. The whole animal has some resemblance, in miniature, to an otter, but is only thirteen inches long. It swims well, and, indeed, seldom quits the water, since the extreme shortness of its limbs renders it only able to crawl on land. These animals, of which there appear to be two species (distinguished only by colour), are principally found near Port Jackson. The foot of the male is armed with a spur, through which passes a poisonous liquor, rendering the animal dangerous. It has lately been clearly proved that these duck-moles not only lay eggs, but suckle their young.

The most common Birds belong to the Melliphagous or Honey-sucking family (*Melliphagidæ* Sw.), all of which have the tongue terminated by a brush-like bundle of very slender filaments, with which they either suck or lick the nectar of flowers; the little scarlet Honey-sucker, however, is the only species ornamented by any gaiety of plumage. Many of the Warblers, on the other hand, are uncommonly beautiful; one, called the Superb (*Malurus superbus*) (*fig.* 896.), has the back of the head and the throat velvet black, divided by bands of the richest blue: it is constantly in motion, carries its tail nearly erect, and sings a short little song as it perches. The Emu bird is still smaller, being scarcely bigger than

the wren, and having a long tail, quite transparent, consisting of one bifurcated feather, like those of the Emu, whence its name. But the two most magnificent birds are undoubtedly the Rifle-bird and the King Oriole.

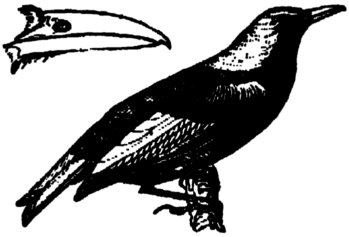
The Rifle-bird (*Ptiloris paradiseus* Sw.) is nearly the size of a jay, but its bill is long and sickle-shaped. Like the uniform of rifle troops, it seems, at a distance, entirely of a black green; but, on closer inspection, its rich and magnificent tints astonish the spectator. The King Oriole (*Sericulus chrysocephalus* Sw.) (*fig.* 897.) is of two colours only, golden yellow, and the deepest black, the feathers of the head resembling the softest velvet; so that nothing can exceed the richness of its appearance.

The Spotted Grosbeak (*Amadina Lathami* Sw.) (*fig.* 898.) is a most elegant bird, not larger than the greenfinch, and might easily be domesticated: it is light slate colour above, with the bill and rump deep crimson, the throat has a black collar, and the sides have snow-white spots on a black ground.

896

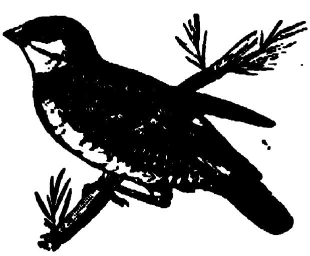
Superb Warbler.

897



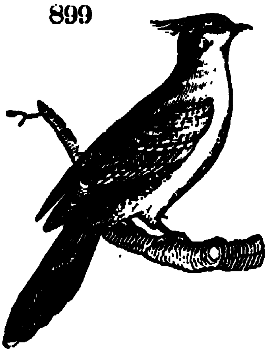
King Oriole.

898



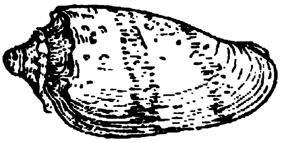
Spotted Grosbeak.

899



Bronze winged Pigeon.

900



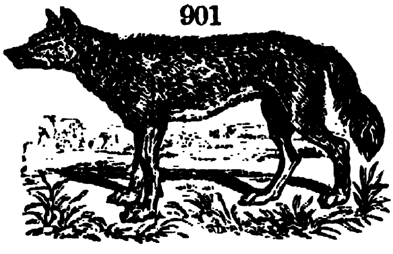
Snow-spot Volute.

The Crested Bronze-winged Pigeon (*fig.* 899.) is, perhaps, the rarest bird of New Holland: only one specimen is known in Europe, now preserved in the museum of the Linnæan Society.

Many of the shells are beautiful, and bear a high price among collectors. The Snow-spot volute, (*Cymbiola nivosa* Sw.) (*fig.* 900.), sells for three or four pounds; the Cymbiola magnifica *Sw.*, the largest of the genus, when darkly coloured, is worth nearly as much. The Lineated Volute (*Scaphella undulata* Sw.) is common in some localities, while the Phasianellæ, or Beauty snails, are particularly elegant.

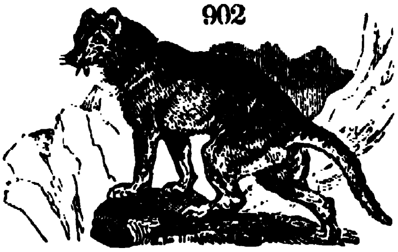
The only native domestic animal is the Dingo, or New Holland Dog (*fig.* 901.): it seems to partake of the singular contradictory nature of Australian animals, by never (as it is asserted) being known to bark. It is active, fierce, and voracious, runs with the tail carried horizontally, the head elevated, and the ears erect. One that was brought alive to England leaped on the back of an ass, and would have destroyed it. All the domestic breeds of cattle, sheep, and horses have been long introduced, and have rapidly multiplied.

901



New Holland Dog.

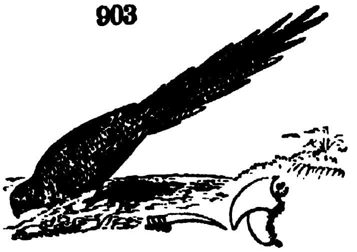
902



Dog-faced Opossum.

***Van Diemen's Land.*—The Zoology bears a general resemblance to that of New Holland, yet presents us with a few animals peculiar to this southern latitude. The chief quadrupeds of this description are the Dog-faced Opossum, the Ursine Dasyurus, the Brush-tailed Dasyurus, and the Dwarf Dasyurus. There are also two species of Balentia or Phalangus.**

903



Ground Parrot.

The Dog-faced Opossum (*Thylacinus cynocephalus* Tem.) (*fig.* 902.) suggests the idea of a union of the dog and the panther; the fur is short and soft, yellowish brown, the sides of the body being marked by broad transverse stripes, which do not, however, extend to the belly; the tail is compressed, which suggests the supposition that it is used in swimming, particularly as this animal inhabits the rocks on the sea shore, and is known to feed upon fish.

Many of the ground parrots of Van Diemen's Land do not occur in New Holland. The Black-spotted (*Pezoporus formosus* Ill.) (*fig.* 903.) is the most singular, since it is never seen to perch upon a tree. The Blue-fronted Parrakeet (*Nanodes venustus*) (Sw. *Zool. Illust.* 2.) is also a rare and elegant species; while the Bronze-winged Pigeons of two sorts, are very common in the open country.

The following glossary of the animals best known to the settlers of New Holland has been given by Judge Field, in his valuable *Geographical Memoirs on New South Wales*, London, 1825. It will answer the double purpose of informing both the scientific and the general reader:—

Quadrupeds.

Forest Kangaroo. Halmaturus giganteus. *Ill.*
Brush Kangaroo. Halmaturus penicillatus.
Flying Opossum. Petaurus ——— ? *Shaw.*
Water or Duck Mole. Ornithorynchus fuscus.

Birds.

Jabiru. Mycteria australis.
Emu, or Cassowary. Rhea Novæ Hollandiæ.
Emu Bird, or Catchfly. Malurus malachurus *Vieil.*
Native Companion. Ardea Antigone.
Black Swan. Cygnus atratus.
Goose of New Holland. Anas semipalmata.
Pheasant, or Bird of Paradise. Menura superba.
Swamp Pheasant. Centropus ——— ?
Spur-winged Plover. Charadrius ——— ?
Regent Bird, or King's Oriole. Sericulus chrysocephalus *Swains.*
Rifle Bird. Ptiloris paradiseus *Swains.*
Butcher Bird. Vanga destructor *Tem.*
White Hawk. Accipiter Novæ Hollandiæ *Tem.*
Satin Bird. Ptilinorhynchus Macleayii.
Superb Warbler. Malurus superbus *Vieil.*
Laughing Jackass. Dacelo gigantea *Leach.*
Green Pigeon. Ptilonopus magnificus *Sw.*
Wonga-wonga. Columba picata *Lath.*
Green Dove. Ptilonopus purpuratus *Sw.*
King Parrot. Platycercus scapularis *H. & V.*
Blue Mountain Parrot. Platycercus hæmatodus *H. & V.*
Rose Hill, or Nonpareil Parrot. Platycercus eximius *H. & V.*
Macquarie Island Parrot. Platycercus pacificus *H. & V.*
Lory Parrot. Platycercus Pennantii *H. & V.*
Ground Parrot. Pezoporus formosus *Ill.*

Sect. III.—*Historical Geography.*

The name of Australasia, in the early records of navigation and geography, bears a vague and almost fabulous sense. It was imagined that the great mass of solid land known to exist on the northern side of the equator, must be balanced by a nearly equal extent in the southern hemisphere. To discover this mighty Terra Australis Incognita was the great object of ambition to navigators through the Pacific; and hope painted it equally filled, as the New World in the West had been found, with the objects which could gratify the desire of wealth and luxury. Indeed, it is little more than half a century since Mr. Dalrymple, one of the greatest names in geography, pronounced the existence and wealth of this southern continent to be a point not admitting of the smallest doubt. The second voyage of Cook, however, set this question at rest; for, though it has recently been proved that antarctic lands of some extent had escaped his notice, yet his route went across all the tracks in which such a great and fertile continent as modern fancy had supposed, could possibly have existed. From this period, the titles of Australasia and Terra Australis settled down upon New Holland and the other great islands by which it is surrounded.

The Portuguese first, and afterwards the Dutch, were too active navigators to allow a tract of coast so closely contiguous to the rich and early settlements of Java and the Moluccas long to escape their research. In the King's library in the British Museum there is a chart by a French hand, dated 1542, in which is delineated to the south of Borneo and the Eastern Archipelagoes, a very large island, called "Great Java;" on the east side of which, immediately beyond the lat. of 30°, appears "*Coste des Herbaiges*," a singular coincidence with Botany Bay. This can scarcely be more than casual; but that the delineation in that chart of the north-western coast was founded on some actual surveys can scarcely, we think, be doubted. No memorial, however, of the early voyages, in the course of which these lands were laid down, can now be discovered.

It was by Spanish navigators that the first distinctly recorded expedition was made, from an opposite quarter, and to an opposite extremity of the great Australasian group. In 1567, Don Alvaro de Mendana was sent by the Viceroy of Peru, with a squadron from Callao. After measuring the breadth of the Pacific, he fell in, near the eastern extremity of New Guinea, with a group of thirty-three islands, to which he gave the name of Solomon. It would be a singular instance of the chimeras which obtained credit in that age, if Mendana really hoped, as it is said he did, by giving this name to the islands, to persuade the world that they were the Ophir, whence Solomon drew the treasures with which he adorned the temple of Jerusalem. There is nothing in the description of them to justify so wild an hypothesis. The natives of one of the largest (Santa Ysabel) were of a very dark complexion, with curly hair, wearing scarcely any clothes, feeding on cocoa-nuts and roots, and, it is supposed, on human flesh. Such repasts seem too well indicated by the horrid present made by the chief to Mendana, of "a quarter of a boy with the hand and arm." At San Cristoval, the natives mustered in a large body, armed with spears, clubs, and arrows, to give battle to the Spaniards; but a short discharge of musketry was sufficient to disperse them. Mendana was sent on a second expedition to examine these islands more carefully; but such was then the imperfection of maritime observation, that he sailed for a considerable time about that quarter, without being able again to light on them; so that it was tauntingly observed, that "what Mendana discovered in his first voyage, he lost in his second." He landed, however, at Santa Cruz, which is not very remote from them, though it appears more properly to form part of the New Hebrides. It is somewhat remarkable, that though these islands have been touched at by Bougainville, by Shortland (who gave them the name of New Georgia), and by other navigators, they have never been surveyed with care, nor has any important addition been made to our knowledge respecting them since the time of Mendana.

In the footsteps of Mendana followed Pedro Fernandez de Quiros, whose name is great in the history of early naval discovery. On the 21st of December, 1605, he set out with a squadron from Lima in search of the great Austral continent. Quiros held a course considerably to the south of the equator, and for a long time discovered only small detached islands. At length, in April, 1606, he came to the islands called the New Hebrides, one of which is of such extent as to suggest the idea of a continent. Here he found a bay large enough to hold a thousand ships. With that familiar use of sacred names in which the superstitious devotion of the Spaniards delighted, they called the country Australia del Espiritu Santo, two fine rivers the Jordan and the Salvador, and the Port Vera Cruz. The banks of these streams were delightful, being clad with a charming verdure, and everywhere enamelled with flowers. The bay was so well sheltered, that in all winds it continued smooth and calm. The land was covered with trees quite up to the mountains, which, like the plains, were always green, being separated from each other by valleys, watered by fine rivers. In a word, there was no country in America, and very few in Europe, equal to this. The Spaniards made some attempts to conciliate the inhabitants; but their conduct, being imbued with that tyrannical spirit which has always distinguished the transmarine proceedings of European nations soon excited a violent hostility, and they were obliged to make off without holding any other communication than that of a few smart skirmishes. They departed, therefore, with the empty ceremony of taking possession of it in the name of Philip III., and founding a city, which they called the New Jerusalem. Luis Vaes de Torres, at the same time, second in command to Quiros, pushed his discovery to the strait which separates New Holland from New Guinea, and saw both those large continents, but without well knowing what they were. Torres's Strait even dropped into oblivion, and was not rediscovered till 1770. Quiros published a splendid and highly-coloured description of the territory thus discovered by him, and addressed to the Spanish court no fewer than fifty memorials, urging them to send out a colony: but that cabinet made no further exertions.

The Dutch now took up the undertaking from the opposite quarter of Java and the Moluccas. The latter islands almost touched those of New Guinea; and it was natural that expeditions should be sent from them to explore the coast of that very great island. In 1605, the yacht Duyfhen, employed on this mission, and taking on her return a southerly course, touched at that part of New Holland which is now called Cape York, but without knowing what she had discovered. This happened a few months before Torres saw the very same part of New Holland in the discovery of his strait; so that the commander of the Duyfhen was the first European that viewed any portion of that continent. In the course of thirty years, fresh expeditions, intending and believing themselves to be discovering New Guinea, sailed, in fact, along a great part of the opposite, and even to the western coast of New Holland. In Tasman's instructions it is already characterised by the name of the "Great unknown South land," and it is stated, that in the years 1616 to 1622, a range of its western coast from 35° to 22° S. lat., was discovered by the ship Endragt, under the command of Dirk Hartog. The name of that commander was, in fact, given to an island and large bay, called afterwards Shark's Bay by Dampier; and both by him in 1697, and afterwards in 1801, by Baudin, a tin plate was found here, bearing the name of the ship Endragt. In 1627, a vessel called the Goede Zeepaard, pushed its career farther, and turning the south-western point of Cape Leeuwin, explored a considerable extent of the southern coast, to which was given the name of Nuyt's Land. Abel Janez Tasman, however, took a wider range, which rendered him foremost in the career of Australasian discovery. On the 14th of August, 1642, he sailed from Batavia with two ships, the Heemskerk and the Zeehaan. He appears first to have sailed southward through a wide range of open sea, till he passed the latitude of 40°. He then steered east, still in the same latitude, which kept him at a distance from the coast of New Holland, but brought him upon that of the southern appendage to it, now so well known by the name, which Tasman gave to it, of Van Diemen's Land, in honour of the then governor-general of Batavia. Tasman, on this coast, saw neither man nor beast; yet he observed smoke in several quarters, and fancied he heard in one place a sound of people, and in another a noise like that of a trumpet; also footsteps resembling those of a tiger or some other wild beast. He observed too very lofty trees, with steps cut in them with a flint, five feet distant from each other, which gave the idea of a gigantic race, by whom such steps could be commodiously used. Tasman now continued his course eastward, till he came to the coast which he called New Zealand. He soon saw enough of the inhabitants, who were not long in displaying that ferocity, of which they have since given so many proofs. Having surprised a boat, they killed three of his men, and obliged four others to swim for their lives. Tasman does not seem to suspect the dreadful ulterior fate which probably awaited the victims. He gave, however, to this inlet, the name of the Bay of Murderers; and with some difficulty cleared the inhospitable coast to which it belonged. His course then led him to the Friendly Islands, whence, after beating a considerable time through little known and dangerous seas, he reached Batavia by the northern coast of New Guinea. Although the Dutch thus showed considerable interest in the exploration of these extensive coasts, there is no record of any intention or attempt to form a settlement upon them. According to one of their navigators, there were everywhere found "shallow water and barren coasts, islands altogether thinly peopled by divers cruel, poor, and brutal nations."

English navigators were now found taking the lead. Dampier, first in the character of a buccaneer, and afterwards in a regular and official career of discovery, observed with characteristic accuracy the north-western coast of New Holland. But it was Cook, whose career enabled him to put together into one regular and consistent system the scattered notices of former navigators. He made a complete survey of the eastern coast of New Holland, which till then had scarcely been at all visited, and ascertained the almost forgotten fact of the complete separation of that continent from New Guinea. He examined, also, Van Diemen's Land, though not with minute attention, and without being aware of the strait which separates it from New Holland, and gives to it an insular character. Cook, also, circumnavigated New Zealand, traced its separation, by the strait which bears his name, into two great islands, and ascertained, by some agreeable and some bitter experience, the striking contrasts in the character of that remarkable people.

The British government, in consequence of the discoveries of Cook, and the complete knowledge now obtained of the coast of New Holland, suggested plans, which gave a new character and interest to the Australian world. Although the territory was extensive and the soil fertile, it yielded none of those rare and brilliant products, either vegetable or mineral, which had hitherto tempted to the formation of colonies. But another motive, suggested by the philanthropic temper of the age, proved sufficient to impel to such an undertaking. The vast growth of the wealth and population of Great Britain was accompanied, unhappily, with increased temptations to crime. The many unfortunate persons, thus made amenable to the laws for offences not of the deepest dye, when continued in prisons, suffered in health and morals, and came out commonly more corrupted than they entered. The transporting them to the opposite extremity of the globe was a punishment less cruel and debasing, and offered a much better chance of amended habits. It afforded, also, the distant prospect of covering these almost boundless deserts with the arts, industry, and civilization of Europe. Such were the motives which induced government, in 1788, to establish the colony of Botany Bay. The settlement has ever since gone on increasing, and, notwithstanding some drawbacks, arising from the peculiar materials of which it is composed, it has, in a very tolerable manner, answered its purposes. The original source of supply has, no doubt, been powerfully reinforced and purified by that spirit of emigration which has recently become so strong, and which promises to realise, earlier and better than was ever expected, the hope of filling these vast regions with a civilized population. The progress of settlement, however, continually narrowed the space in which room could be provided for the numerous voluntary and involuntary emigrants. It became the first object of the settlers to discover such a space in the interior, across the hitherto impassable range of the Blue Mountains. This was done in 1813, by Messrs. Blaxland, Wentworth, and Lawson. Governor Macquarie afterwards despatched Mr. Evans, the deputy land-surveyor, by all possible means to find out or make a path down these mountains, to the fine country which these gentlemen had first seen beyond them. For twenty-six miles Mr. Evans passed over a succession of steep, rugged mountains, which seemed repeatedly, at first sight, to deny all passage. At length he reached the highest point, a lofty table plain, afterwards called the King's Table-Land, whence stretched a prospect of prodigious extent. On the opposite side appeared a very abrupt descent into a deep and romantic glen, beyond which rose another lofty chain of hills. After making his way for seventeen miles along the ridge, he came to a most tremendous precipice, above 600 feet high, called Mount York, down which, with great labour, a road was afterwards constructed, called Cox's Pass. His toils were now rewarded. He came to fine pastoral plains, well watered by two rivers, the Campbell and Fish, uniting into the Macquarie. As soon as this intelligence had been conveyed to Sydney, and the route reported practicable, in 1815, Governor Macquarie in person crossed the mountains, and examined this new accession to the colony. He founded a township there, to which he gave the name of Bathurst; and this rich and improvable district is now occupied by a thriving population.

Another expedition, under Mr. Oxley, the surveyor-general, was, in 1817, undertaken to discover the course of the waters which flowed westward from the Blue Mountains, and to explore the regions through which they rolled. Mr. Oxley first followed the course of the river Lachlan, which was found proceeding directly westward; but nothing appeared along its banks which could afford the promise of a flourishing settlement. The hills were rugged and steep, the plains either sandy, or marshy and inundated, and the river finally dwindled into a narrow channel running through a morass. As Mr. Oxley was returning by another route, he came upon the Macquarie, a broad and considerable stream, flowing in a north-west direction. He returned at this time to Bathurst, but next year set out on a fresh expedition, to find, if possible, the termination of this important river. He traced it to the north-west through a series of rich flats and extensive level plains, till, unfortunately, it too began to spread into marshes; and, at length, appeared to terminate in a vast watery plain covered with reeds, through which it flowed with a channel only five feet deep. He now determined to return, not by re-ascending the river by the same track, but by striking to the east, across a mountain range, which led more directly to the sea. On this track many interesting discoveries were made. The party passed over high mountain ridges, whence they descried to the southward several vast plains covered with the richest herbage. They observed a succession of rivers flowing to the northward, and, at length, came to a considerable one, directing its course to the eastern coast. To this they gave the name of Hastings; and a good harbour, found at its mouth, has, under the name of Port Macquarie, become the seat of a settlement, which promises to flourish. On the whole, this expedition, notwithstanding the disappointments which attended it, enlarged greatly the known extent of lands in the interior fit for cultivation and settlement. It is only to be wondered that, with officers so enterprising, the career of discovery should have been suspended by government after penetrating only to about a tenth part of the breadth of the continent, and that no further efforts should have since been made, except by private individuals, to enquire into the secrets of the great Austral wilderness, until the year 1827. A well-appointed expedition was then placed by the colonial government under the direction of Mr. Allan Cunningham, the King's botanist, who had already traced a route from Bathurst to Liverpool Plains, a fine country discovered by Mr. Oxley in his second expedition, and who now effected a journey from Hunter's River to the River Brisbane, on the banks of the latter of which a penal settlement had already been established for several years; and near to which, with a pass to them through the dividing range of mountains 4000 feet high, he discovered some very spacious pastoral downs, ready for the colonist, whenever the government should be pleased to convert the penal settlement into a free one, as they had successively done Hunter's River and Port Macquarie.

In the year 1828, an expedition was despatched, under the direction of Captain Sturt, an officer of His Majesty's 39th regiment, to Mount Harris, a detached hill upon the Macquarie River, where Mr. Oxley had left his boats upon proceeding easterly towards the coast. Upon reaching that remarkable eminence, on the 20th of December, Captain Sturt ascended the summit to survey the country below. But how much had evaporation in three years changed the face of those regions! The plains which Mr. Oxley had left entirely under water in 1818, now presented an expanse of dried-up surface, which to all appearance extended northerly, without the slightest semblance of rising ground, to a distant "clear unbroken horizon." Encouraged by these appearances, the expedition traced the Macquarie through its last stage to the woodlands below Mount Harris, where its channel ceased "to exist in any shape as a river." In exploring the country beyond this point, the party traversed the bed of that extensive morass, into which the late surveyor-general had, ten years previously, descended in his boat: this they now found "a large and blasted plain, on which the sun's rays fell with intense heat;" the ground itself, parched to an extreme, exhibiting in many places deep and dangerous clefts, which clearly demonstrated the long existence of those droughts, to which every known part of New South Wales was at that period exposed. On these inhospitable levels, Captain Sturt passed a week; and in that period he skirted three distinct patches of marsh, in which were found broken channels of the river, forming so many stagnant lagoons or canals, surrounded by reeds. In whatever direction they advanced to satisfy themselves as to the fate of the Macquarie, whether on the plains or wooded grounds, reeds of gigantic stature (the clearest indication of what such a country is in a regularly wet season) encompassed them, and greatly obstructed their progress. Captain Sturt now directed his expedition to the north-west, with a view to farther discoveries, aware, as he was, from the observations he had previously made during his own short excursion, that a clear open country was before him in that direction. In continuing their journey westerly over this level country, its total want of water, excepting in creeks where the supply was both bad and uncertain, became a source of considerable annoyance to the party; who ultimately were obliged to follow one of the water-courses, which, being traced to the north-west, brought them (on the 2d of February) to the left bank of a large river, the appearance of which "raised their most sanguine expectations." To the utter disappointment of the travellers, however, its waters were found perfectly salt; and this circumstance was the more severely felt, as the horses of the expedition had travelled long in an excessively heated atmosphere, and had been without water a considerable time. After making some arrangement in favour of his exhausted animals, Captain Sturt proceeded to explore this river, to which he gave the name of Darling. They followed it in the direction of its course (south-westerly), about forty miles, and throughout found its waters not only not drinkable, but rather becoming, as they advanced, more considerably impregnated with salt. In one part they observed "brine-springs," and the banks throughout were incrusted with "salt," or, probably, with aluminous particles. The breadth of the river was estimated at sixty yards, and its banks from thirty to forty feet high. At length the want of "drinkable water" along its bank, and the appearance of a loose red sandy soil, at the point to which the patience and perseverance of the travellers had induced them to trace the river, at once destroying all hope of meeting with the most scanty supply in the back country, obliged them to give up its further examination. The extreme point to which the Darling was traced, and from which it continued its course through a level country to the south-west, Captain Sturt marks on his map, in lat. 30° 16′ S. and long. 144° 50′ E.

The Darling may be justly considered the largest river which has been discovered in New South Wales, since it is formed by a junction of all the streams which were discovered by Mr. Oxley, in 1818 (and these were five in number, each of considerable magnitude), as well as of those met by Mr. Cunningham in his journey of 1827; and thus it constitutes the great drain of a tract of mountainous country lying between the parallels of 27° and 33½°. But what ultimately becomes of this river, beyond the spot where Captain Sturt and his comrade left it flowing through a desert country to the south-west, remains wholly unknown.

To the same indefatigable officer was intrusted, at the close of 1829, the direction of a second expedition, destined to trace the course of the Morrumbidgee, another western stream, rising in a range of mountains situated to the southward of the parallel of 35°, and under the meridian of 149°, at a distance of about eighty miles inland from the eastern coast line, and within what is now denominated the county of Murray. Of the character of this river it may be here briefly remarked, that its bed forms a succession of planes, of which some are of great inclination; along these its waters flow with considerable velocity in nearly a west direction. After receiving the Yass River and some other minor streams, all which fall into it at an early stage of its progress, namely, in long. 148½°, the Morrumbidgee pursues a long and tortuous course for upwards of 300 statute miles, without deriving the slightest increase from the country it waters: and thus in this respect it resembles the Lachlan, which maintains a parallel course through the low interior to the northward. Thus far the river had been followed down some years ago, by stock-keepers in pursuit of strayed cattle, who also ascertained, in their long rides along its banks, the extent to which the country westerly, from its elevation above inundation, might be safely occupied by grazing stations. The direction which this river was also, at that period, known to take towards the marshes of the Lachlan, led to the conclusion, that both streams were united in those morasses; and on so low a level (as was ascertained by Mr. Oxley in 1817) as to favour the opinion that their confluent waters were rather dissipated over an extensively flat surface, than carried on in one body to the ocean, distant at least 300 miles. And this opinion, gratuitous as it was, would nevertheless have proved to have been correct, had the Morrumbidgee not pursued its course so far to the westward as to reach the channel of a much larger river; since, as will presently be seen, it has neither magnitude nor velocity sufficient to force its way 260 miles to the sea-coast; but which the principal stream, by its volume and strength, has the power to effect.

The second expedition conducted by Captain Sturt proceeded from Sydney to explore the Morrumbidgee, in December, 1829. Tracing it down on its right bank, until he had passed every rapid or fall that might impede its navigation, he established a depôt, launched a boat, which he had conveyed over-land from Sydney, and having, by dint of great exertion, built another on the spot, he lost no time in commencing his examination of the river to the westward. On the 7th of January, the expedition moved forward down the river, and on the fourth day, when they had passed extensive alluvial flats, on which were patches of reeds, the navigation became much interrupted by "fallen timber," and as the current was frequently very rapid, particularly in those parts of the river where its channel had become contracted, the boats were frequently in great danger from sunken trees. After advancing on their voyage about ninety miles to the westward, through a country of level, monotonous aspect, the party were relieved from the state of anxiety, which a week's most difficult and dangerous navigation had caused, by their arrival (to use Captain Sturt's words) at "the termination of the Morrumbidgee;" for its channel, much narrowed and partially choked by drift-wood, delivered its waters "into a broad and noble river," the current of which was setting to the westward at the rate of two miles and a half per hour, with a medium width from bank to bank of from 300 to 400 feet. This new river, which was called the Murray, and into which the diminished waters of the Morrumbidgee fall, is evidently formed by a junction of the Hume and Ovens; which streams, taking their rise in the great Warragong Chain, were first made known to us by the travellers Messrs. Hovell and Hume, who crossed them, 250 miles nearer their sources, in their excursion to Port

Philip in 1824. Pursuing the course of the Murray, on the 14th of January, the voyagers made rapid progress to the W.N.W., noticing, as they passed on, a low, unbroken, and uninteresting country, of equal sameness of features and vegetation to that observed while descending the intricate Morrumbidgee on quitting their depôt. After nine days' voyage down the Murray, in which period they proceeded about 100 miles westward, without observing the slightest improvement of the country, or the least rise in its surface, the expedition passed the mouth of a stream flowing from the north by east, with a strong current, and in point of magnitude but little inferior to the Murray itself. Ascending it, Captain Sturt found it preserving a breadth of 100 yards; and its banks, on which were many natives, were overhung with trees of finer and larger growth than those on the Murray. Its waters were, moreover, ascertained to be two fathoms in depth, of turbid appearance, but perfectly sweet to the taste. The confluence of these two rivers takes place, as appears by Captain Sturt's reckoning, in exactly long. 141° E., and immediately to the south of the parallel of 34°. It was at this stage of the expedition that the face of the country began to assume (comparatively speaking) an interesting appearance; and the first rise of ground which had been seen in the advance of the party to the westward in a direct line of more than 200 miles, was observed at a moderate distance from the river to the north-west. Previous to his reaching the point of confluence of the two rivers, Captain Sturt, it would appear, had entertained a doubt as to the decline of the vast plain through which the Murray flows, as well as of the probable fall of the waters of the interior to the north of it; but on observing a new stream flowing into the Murray, the circumstance of the meridian in which he had struck it, and the direction from which it came, combined to satisfy him that it could be no other than the Darling. However, the identity of this tributary to the Murray with the Darling remains still to be ascertained.

There is an intermediate tract of unknown country, exceeding in extent 400 miles, between the southernmost point of Captain Sturt's examination of the Darling River, and the junction of the stream discovered in the progress of this second expedition flowing from the northward to the Murray; and as these exhibit no one character common to both, we cannot, in the present state of our information, arrive at a satisfactory conclusion, that the tributary to the last-mentioned river, and that great drain of the country to the north of the parallel of 34°, the Darling, are one and the same stream. The river flowing into the Murray is said to be sweet to the taste; the Darling, on the other hand, is described as strongly impregnated with salt.

To follow the expedition down the Murray;—that river, after it receives the supposed Darling, continues its course upwards of a degree farther to the westward, and in that space receives a second stream, which falls in on its left bank from the south-east. This tributary stream, which is described as a river of considerable importance, and was named the Lindesay, is most probably the Goulburn of Hovell and Hume, whose journey over-land to the south coast, in 1824, we have already adverted to, and who, in fording their river at a part where its channel presented a breadth of eighty yards, left it winding its course to the north-west. From this point, the banks of the Murray assumed a new appearance, and along the northern extended a range of cliffs, which appeared to the party, as they passed beneath them, to be of partial volcanic origin. The navigation at length became rather intricate, for those cliffs being immediately succeeded by others of limestone on each bank, the river was found to force its way through a glen of that rock, in its passage frequently striking the base of precipices of the same formation, which rose to a perpendicular elevation of 200 feet, and in which coral and fossil remains were remarked to be plentifully embedded. At this stage of their passage, those long ranges of forest hills, which extend along the eastern shore of the Gulf of St. Vincent, became discernible, indicating to the exploring party their approach to the coast. On the 3d of February, the river having reached the meridian of 139¾°, the disposition of the bounding cliffs gave its course a decided bend to the southward, through a continuation of the glen, which at length opened into a valley. Here the river was observed to have lost the sandy bottom which it had exhibited throughout its long course from the eastward; for, its bed having now dipped to almost the level of the sea, its waters had become deep, still, and turbid. On the 8th of February (the thirty-second day of the voyage from the depôt) the hills wore a bleak appearance, and the few trees, which had at one period fringed their ridges, were for the most part broken off, as if by the prevailing winds. At noon, upon entering the river's last reach, they could discern no land at its extremity; some low hills continued, however, along its left bank, while its right was hid by high reeds. Immediately afterwards, these enterprising voyagers entered an extensive lake, the expanse of which stretched away far to the south-west, in which direction the line of water met the horizon. This lake, which received the name of Alexandrina, was estimated at from fifty to sixty miles in length, and from thirty to forty in breadth. A large bight was observed in it to the south-east, and an extensive bay at the opposite point; still, notwithstanding these dimensions, this very considerable sheet of water appears to be but a mere shoal, since Captain Sturt states its medium depth at only four feet! Upon this vast but shallow lake, he pursued his voyage to the southward, remarking that its waters, which at seven miles from the point of discharge of the Murray into it were brackish, became at twenty-one miles across perfectly salt, and there the force of the tide was perceived. As the party approached the southern shore, the navigation of the boats was interrupted by mud flats, and soon their farther progress was effectually stopped by banks of sand. Captain Sturt, therefore, landed, and, walking over some sandy hummocks, beyond which he had, from his morning's position, seen the sea, almost immediately came upon the coast at Encounter Bay.

We gather, as the results of this second tour of discovery of Captain Sturt, the termination of the Morrumbidgee, as well as of the several streams which were crossed by Messrs. Hovell and Hume, in 1824, and the waters of the Lachlan of Oxley, in 1817, all which unite; as also the nature of the unbroken, uninteresting country, lying to the westward of the marshes of the latter. In effecting this service, Captain Sturt has added largely to the geographical knowledge which we previously possessed; since the facts ascertained by him during the progress of his expedition have enabled him to fill up no inconsiderable blank on the map of that part of New South Wales lying to the west and south-west of Port Jackson.

We have now given the sum of our geographical knowledge of New South Wales, up to the present period; and dividing the map of that vast country into seven equal parts, one division will fully include the tracks of all the journeys which have been undertaken since 1817, with a view to discovery, by Oxley, Sturt, Hovell and Hume, Cunningham, and others; whilst the remaining six portions, which comprehend a great expanse of territory beyond the tropic, and the whole of the equinoctial part of the continent, continue, at this day, entirely unknown. The want of navigable rivers in this Great South Land must necessarily impede the progress of inland discovery.

The exploration of the vast shores of the Australian continent was meantime carried on with activity. Captain Flinders and Mr. Bass, a naval surgeon, sailed from Port Jackson, in 1798, and ascertained the complete separation of Van Diemen's Land from New Holland, by the strait bearing the name of the latter gentleman. The French admiral D'Entrecasteaux, on the south-eastern coast of Van Diemen's Land, discovered, in 1792, that magnificent channel which bears his name, and which forms a series of the finest harbours in the world. Captain Flinders, in 1801, was employed by the British government to make a thorough survey of the coast of New Holland, which he completed with regard to the south-east and north-east; but the loss of his vessel prevented him from extending it to the west and north-west coasts. These were surveyed, about the same time, by the French expedition under Captain Baudin, but not in a very complete or careful manner. The British government, therefore, in the course of the last few years, employed Captain King to go again over the ground, and examine strictly all the points yet left in uncertainty, and particularly whether some river, proportioned to the magnitude of the continent, and capable of ministering to its interior commerce, did not there discharge itself into the ocean. Captain King made some valuable discoveries. He examined the northern bay of Van Diemen, which he found to be a gulf; inspected the channels of the Alligator river which fall into it; and discovered at the mouth of the bay two large islands, Melville and Bathurst, which had heretofore been supposed to be part of the continent. On the north-west coast he discovered Prince Regent's River, which, as already observed, is larger than any other yet found on this side of New Holland, though still not such as can well afford a channel to any great mass of its interior waters.

Sect. IV.—*Political Geography.*

The government of a colony like that of New South Wales must necessarily be attended with peculiar difficulties. A body of men who stand regularly opposed to the laws, and the laws to them, can only be maintained in peace and order by processes which must appear severe to those who are placed in more favourable circumstances. The difficulty has, perhaps, not been diminished by the admixture of that small but respectable class, whose emigration has been voluntary. The estrangement and even antipathy which must arise too readily between these bodies, from the contempt with which one is apt to view the other, have sown fertile seeds of dissension, and render it very difficult to maintain a due temper between these inharmonious elements.

Nothing like a free constitution has yet been granted to the colony. The executive power resides in the governor, assisted by a small council of the highest officers of the government, while the legislature is shared by him with a council, which includes a few of the principal settlers and merchants, both councils being appointed by the king. The proposal for any new law originates with the executive, which, before submitting it to the legislative council, must propound it to the chief justice, who is to pronounce whether it contains any thing contrary to the law of England. After passing the council, it must be communicated to the government at home within six months afterwards; and till three years have elapsed, the king may interpose his veto. It must also, within six months, be laid before the British parliament.

The judicial power of the colony is vested in a chief justice and two assistant judges, who try all cases, criminal and civil. In the former, one of the judges is combined with what is called a jury, which consists not of the colonists, but of seven naval or military officers nominated by the governor, and which seems, therefore, to partake more of the character of a court martial. The jurors, however, are liable to challenge, the grounds of which are pronounced upon by the judge. In civil cases, he or one of the assistant judges is combined with two assessors, who must be magistrates of the colony, except where both parties consent to have a jury of twelve men as in England. Not above one instance has occurred, since the operation of this judicial charter in 1824, in which both parties have so consented. In cases where the value exceeds 500*l.*, an appeal lies to the governor, and, in case of reversal of judgment, and in all cases above 2000*l.*, to the king in council. The police seems to be maintained in a very superior manner to that of England, since Mr. P. Cunningham assures us, that in Sydney, where there are so many profligate individuals, person and property are as secure as in an English town of the same size. Such statements, however, must always be understood with some allowances. Van Diemen's Land, at first, had no separate jurisdiction, except for causes under 50*l.*, being a mere dependency on New South Wales; but it recently obtained both a separate lieutenant-governor and councils, and a separate court of justice. This last, except that it has only one judge, is constituted in the same manner as that of Sydney, to the governor of which, assisted by the chief justice, there lies an appeal from it in all cases of property above 500*l.*; and in cases above 2000*l.* a further appeal lies to his majesty in council.

The military force stationed in New South Wales consists of three regiments, besides which several companies are stationed in Van Diemen's Land. There is no fixed naval force; which is complained of, both in reference to hazards of foreign attack, and to attempts sometimes made by the convicts to carry off colonial craft. A single ship of war is sent down to both colonies from the East India station.

The revenue of the colony arises from customs, excise, market and other tolls, &c., and amounted in 1833 to 164,000*l.*; of this 111,124*l.* were from customs. The expenditure for strictly colonial purposes during the same year was 114,208*l.* The annual revenue of Van Diemen's Land is at present 90,000*l.*, mostly from customs; and that of Western Australia, about 5,000*l.* It appears from parliamentary documents, that during the year 1833, the expenditure incurred by the imperial treasury for the colonies of New South Wales and Van Diemen's Land was 371,010*l.*; for Western Australia, 37,114*l.*

The entire expense per head of the convicts for the last twelve years, including the voyage, and the whole support of the colony, has been 25*l.*, while Mr. Wentworth finds that of the hulks to vary from 27*l.* to 43*l.*, and that of the penitentiaries to be at least 38*l.* Transportation seems, therefore, more economical, if not more effective, than any other mode of penal infliction that has yet been devised. It appears from the Report of the Committee of the House of Commons, in 1832, on Secondary Punishments, that the colonies of New South Wales and Van Diemen's Land have, from relaxation of discipline, and the premature introduction of the free press and other institutions of the mother country, in a great degree failed as penal settlements, both to reform the convict there, and to deter the criminal at home. The committee, therefore, recommends that, in future, no persons sentenced to transportation, with the exception of those selected for punishment in the Penitentiary at Milbank, should be allowed to remain permanently in Great Britain or Ireland, and that henceforth the convict establishments in England should be considered an intermediate station between the gaol and the penal colonies; that no male convict, whatever may have been his previous character or station in life, who may commit an offence deserving of actual deportation, should be exempted from the previous punishment of unrewarded hard labour in the dock-yards, or at Dartmoor, attended with solitary imprisonment at night; that all convicts in the service of the government, in the penal colonies, should be strictly confined in their barracks at night, in separate cells, and that the barracks be for that purpose altered upon the plan of the prisons in the United States; that all male convicts, on their arrival from the mother country, be assigned to settlers in the rural districts, and that none be allowed to enter the service of those living in the large towns, until after several years' residence in the colony; that none but persons of respectability be allowed to have convicts in their service; that no convict be assigned to a settler, until he shall have paid, or given security for the payment, by instalments, of the expense incurred in the conveyance of such convict from the mother country; and that the service in the colony necessary to the obtaining tickets of leave, viz. of four years for a transport for seven years, of six years for one for fourteen, and of eight for one for life, be not shortened in consequence of any punishment inflicted previously to transportation.

Sect. V.—*Productive Industry.*

The fertility of the Australian continent has been a subject of doubt, and it has even been branded with a character of comparative barrenness. The greater part of its coast, indeed, presents an aspect the most arid and dreary. The interior, however, is so exceedingly little known, that any sweeping conclusion respecting it seems yet premature. That part now colonised by the British, including Van Diemen's Land, though not quite uniform, is, on the whole, in point of fertility, above the average of other continents. The ground, indeed, in consequence of all the trees being evergreens, has acquired none of that excessive luxuriance which in America is derived from the deciduous leaves continuing for ages to mix with the soil. The grass, though good, is rather thin, and Mr. Patrick Cunningham says that it has been injured by excessive and injudicious pasturing; so that it has been necessary, on small farms, to introduce artificial grasses even for sheep. But when judiciously subjected to the plough, it is manifestly equal to the best European soils, since it is made to produce two crops in the year, one of wheat and the other of maize.

The deportation of convicts for crimes is well known to be the mode by which the settlement of Australia has been effected. The sentence has usually been for seven or fourteen years, but, from the difficulty of finding a passage home, it has almost always been, fortunately perhaps for the convict, for life, both to himself and his posterity. At the end of his period, or even sooner, in case of good conduct, the convict becomes an *emancipist*, as he calls himself, obtaining his liberty, and sometimes a piece of ground to cultivate, or, as it has often happened, to make away with. Many of them have proved very industrious, and prospered exceedingly, insomuch that Mr. Wentworth calculates that the emancipists are now possessed of property worth 1,000,000*l.* sterling, but he does not pretend that this estimate is derived from any better authority than that of a census, as he calls it, though it was perfectly extra-official, taken by some of the leading men among themselves, as petitioners to parliament, in 1820, by which it appears that the emancipists possessed 241,364 acres of land, and the free emigrants 209,106 acres. Now, in the very same year, Commissioner Bigge, in his official report to the secretary of state, says that he requested the magistrates, at the regular public census or muster of that year, to take an account of the land held by emancipists, and that those returns gave only 83,502 acres to them, leaving 305,786 for the free emigrants. It should seem, therefore, that Mr. Wentworth's estimates are entitled to no more credit than the petition of the emancipists to the parliament of 1828, for a legislative assembly and trial by jury, which stated that the population of the two colonies was 60,000 persons, of whom 40,000 were free settlers, assertions which Mr. Secretary Huskisson put down by simply saying that the total population of both colonies was only 49,000, of whom 18,000 only were free settlers, including in that number the emancipists, the expirees, and all others who were restored to their civil rights. Besides convicts, however, government have liberally and successfully exerted themselves in inducing another and better class to people, and to improve, the wilds of Australia.

Emigration, in consequence of the excess of population, and the stagnation of manufactures in Great Britain and Ireland, has, for some time, been looked to as an important resource by small capitalists and persons somewhat above the lower ranks. This surplus population has been largely poured into Upper Canada and the back settlements of the United States. Mr. P. Cunningham, who has visited both, undertakes to prove, that the Southern Continent affords a more eligible sphere for the emigrant. The passage to America is, indeed, very light when compared with that to New Holland, which, occupying, on an average, eighteen weeks, costs, in the cabin, from 70*l.* to 100*l.* The American emigrant, however, has, besides, seldom less than 1000 miles of land journey to perform into the interior; he finds dense and deep forests, in which long and hard labour are necessary to clear a few acres; he pays a price for his land which, however comparatively moderate, drains his little capital; he can obtain service or assistance with difficulty, and only at a very high rate. All these things are on a more favourable footing in the southern settlements. The emigrant, on proving himself possessed of 500*l.*, has bestowed upon him a grant of 640 acres of land; and the gift rises always in proportion to the capital manifested, till it reaches its maximum of 2560 acres, corresponding to a sum of 2000*l.* As the bank of a river is usually taken as the base line of a grant, and the river frontage allowed is in every case the same, the small and the large grants are in the first instance almost of equal value. At the end of seven years, a redeemable quit-rent is imposed, amounting to 5*l.* per cent. upon the estimated value of the grant; but as this estimate has never exceeded 5*s.* per acre, the quit-rent will not, in ordinary cases, exceed 8*l.* per annum. It is levied less as a tax than as a security that the land thus granted shall be actually cultivated, and not taken as a mere speculation. The planter then, on his urgent petition, has assigned to him a proportionate number of thieves, to assist in the culture of his new domain. Such helpmates do not sound very tempting; yet it is averred that, if well managed, they may, in most cases, be broken in to be very tolerable farm servants. Some, indeed, fly off at once from a place where "they have not even a chance;" and, as a severe flogging would await them at the police office, they form or swell those bands of bush-rangers which have been so disastrous to the colony. Others endeavour to render themselves as unserviceable as possible, that their masters may be glad to return them whence they came. But after they have been fairly inured to a quiet life and regular industry, and estranged from the corrupting society of their comrades, the majority become nearly as good farm labourers as the bulk of those at home. The convict servants are quartered in little huts roofed with bark, and receive a weekly allowance of victuals, consisting of a peck of wheat, seven pounds of beef, or four pounds of pork, two ounces of tea or of tobacco, and a pound of sugar. They must have also two suits of clothes in the year, a few utensils, and a little soap; but it is optional with the master to give them wages and other indulgences. That they are really found efficient, seems proved by the consternation which, according to Mr. P. Cunningham, pervades the colony, when any ill-founded rumours are spread of an increasing morality at home, which will prevent the arrival of fresh detachments.

The first establishment of the emigrant in a new settlement requires much consideration, and is attended with serious hardships. He must renounce all luxurious and European habits; he is deprived of accommodations which he has been accustomed to consider as most essential; he is shut out, as it were, from all society. There are said to be few who, in the first year or two, do not rue the choice they have made. They have no alternative, however, but to persevere; and if they proceed with any vigour and steadiness, prosperity soon begins to dawn upon them. They find themselves possessed of extensive and constantly improving property; and their family, instead of being a subject of anxiety and embarrassment, will be sure to add to their wealth. Great judgment is required in the choice of a situation. For those who wish to follow agricultural pursuits, Mr. Wentworth recommends one upon the coast, or the rivers connected with it; Hunter's River, Hastings River, or Moreton Bay. But for such as have the breeding of cattle or sheep in view, the vast and fertile plains beyond the Blue Mountains afford a much more ample scope; and the animals can convey themselves, or their wool, cheese, or butter, can be carried to the coast, at a very cheap rate. Van Diemen's Land, also, is suited to the pastoral farmer; and its cool climate, more resembling our own, with the greater beauty of its scenery, have rendered it rather a more favourite resort than the original settlement; though the latter affords the greater scope to speculation and enterprise. Australia is not so closely timbered as America; it has many wide and open plains; and even in the most wooded tracts, the trees are at such a distance from each other that the plough can pass between them. Mr. Wentworth warmly recommends that, disregarding the deformity thence arising, the stumps, in the first instance, should be left standing, under which system an acre may be cleared for 1*l.* 8*s.*; whereas by rooting and burning them out, the cost will be doubled. A rude wooden habitation may be got up for 50*l.*; which, unless the emigrant's money be more abundant than usual, it will be much wiser to build, than to waste his capital in a finished mansion, which would cost 1000*l.*

The mode and objects of culture do not differ materially from those of Britain. The hoe prevailed at the outset of Australian cultivation; but, unless in lands entangled with brushwood, or where there is a want of cattle, the plough is now universally substituted. Wheat, maize, and potatoes are the chief crops in New Holland. The wheat is sown in April, and reaped in October or November; after which, maize is sown immediately, and reaped in March or April. Two crops of potatoes are also raised, one between February and July, the other between August and January. Maize requires much manual labour, and is exhausting to the soil; but the crop is so abundant, and so useful for cattle, that it cannot be dispensed with. It does not suit the climate of Van Diemen's Land, where, however, barley and oats are raised better and more largely.

In the year 1830 the number of acres held was as follows:—

Total held	2,766,933
Of which were cleared	225,812
cultivated	70,695
The number of horses	10,352
horned cattle	248,440
sheep	504,775

There are no returns since, but the amount has probably doubled by this time. In the beginning of 1835, 70,000 acres of land were in cultivation on Van Diemen's Land, chiefly in wheat. The live stock on the island was,—

Horses	7,115
Horned cattle	74,075
Sheep	766,652

Animals.—The pig is easily fed on wild herbs and roots, and, if a little maize be added, makes excellent pork. The horses are generally very hardy, but ill-broken, and are found restive and unsteady at draught, for which purpose bullocks are preferred. They are chiefly used for the saddle or gig, and for racing, which has become a favourite Australian sport. Horses of high blood bring from 150*l.* to 200*l.*, and a good one cannot be bought under 40*l.* Poultry are plentiful and excellent. The chase, in distant settlements produces the flesh of the kangaroo, the emu, and the wild turkey, together with the eggs of the emu, which are all very good food; but these animals diminish with the progress of cultivation.

Manufactures are not naturally suited to so young a colony, yet they have made much greater progress than might be expected; a circumstance against which Mr. Wentworth inveighs too bitterly, not considering the great distance of the markets, both for importing manufactured goods, and exporting their raw produce. It is not likely that the colonists should be so very blind, as he represents them, to the most profitable modes of employing their money. The articles made in the colony are chiefly coarse and bulky, such as could not have borne the expense of a long transport; agricultural implements, common pottery, woollen cloths, undyed and twilled, in resemblance of Scotch blanketing; leather from the skin of the kangaroo; hats, beavered with the fur of the flying squirrel; straw hats, and soap. The articles are in general dearer than those made in Britain, but fully as durable, especially the cloth.

Fish are plentifully supplied to the markets of the colony, chiefly by the natives, among whom this is the only branch of industry pursued with any vigour. The coast absolutely teems with oysters, crabs, and other shell-fish. In the rivers, the perch, the eel, and the cray-fish abound, and are of superior quality. The seal is generally found along the coast to the southward, and is killed for its skin, which finds a ready market in England. Whales of a large and valuable kind resort at a certain season to all the coasts of Australia; and since the absurd restrictions on the trade in oil were removed, this has begun to be an important branch of colonial fishery, and likely to increase rapidly. The chief seat of this trade is Sydney. In 1833, 27 vessels brought in 43,900 tons of oil, and 2,465 seal skins, the value of both of which amounted to 169,278*l.* In 1834, 40 vessels sailed from Sydney to the sperm fishery.

The commerce of Australia may be considered very great, when compared with its slender population and recent existence. Nothing, indeed, can more wonderfully illustrate the progress of maritime intercourse than that which Britain now holds with this continent. The circumnavigation of the globe, once to accomplish which was, a hundred years ago, an almost matchless exploit of the most daring navigator, is now a common trading voyage. The ordinary shipmasters who take goods to Sydney go out usually by the Cape of Good Hope, and return by New Zealand, Cape Horn, and Rio de Janeiro. Australia, however, which has only bulky raw produce to dispose of, has difficulty in finding exports that will bear the heavy freight that is necessary in these vast distances, which separate it from the civilised quarters of the globe. The fine wool of the colony affords in this respect the fairest promise, the export from New South Wales and Van Diemen's Land already amounting to upwards of 3,500,000 lbs. In 1833, the imports of New South Wales were of the value of 713,972*l.*; of the exports, 394,801*l.*; ships cleared, 194, of 42,857 tons; entered, 189, of 26,020 tons: there are belonging to Sydney 90 ships, of 13,890 tons. The value of articles imported into Van Diemen's Land, in 1834, was 471,233*l.*; of exports, 203,223*l.* The imports are chiefly British manufactures, tropical produce, wine, tea, &c.; exports, whale and seal oil, wool, wheat, &c.

The mineral kingdom in Australia has not yet yielded any very excellent products, though, as usual in untried cases, sanguine hopes have been sometimes cherished. There is, however, a very extensive coal formation, reaching from Botany Bay to Port Stephens, and particularly abounding at Hunter's River. A thousand tons are there dug out annually, and sold on the spot, at 5*s.* per ton; but raised, by a seemingly exorbitant freight, to 20*s.* at Sydney. The coal burns well, but does not cake; so that it is chiefly used in manufactures, and wood is preferred for domestic purposes. Cannel coal has lately been discovered between Reid's Mistake and King Town. There is plenty of fine freestone, but lime and gypsum are found only in the interior beyond the mountains; a great loss to the agriculture of the coast territory. Magnetic ironstone exists in large masses near Port Macquarie. The pipe and potters' clay are very fine. The same minerals are found plentifully in Van Diemen's Land.

Sect. VI.—*Civil and Social State.*

The population of this vast territory is European and native. The former has been in a state of rapid increase. The first cargo of 700 convicts was landed in January, 1788. In 1810, the population still amounted to 8293; but in 1821 the census gives 29,783 for New Holland, and 7185 for Van Diemen's Land. Since that time the transmission both of convicts and emigrants has been so very active, that, by the census taken at the end of the year 1833, the numbers of the former colony amounted to 60,261, as follows:—

	Free	Convict.		Total.
Males	22,843	21,845	Males	44,688
Females	13,475	2,098	Females	15,573
Totals	36,318	23,943		60,261

The population of Van Diemen's Land at the beginning of 1835, is stated to have been 32,824, as follows:—

	Free.	Convict.		Total.
Males	12,374	10,438	Males	22,812
Females	8,512	1,500	Females	10,012
Totals	10,886	11,938		32,824

Hassel has guessed the natives of the two islands at 100,000; but the conjecture is evidently very rude, since not above one-tenth part of the interior of the Australian wilderness has been visited, and not above a twentieth part of its coasts has been landed upon. Though more numerous upon the sea-shores, by reason of the resource of fish for food, it is certain that they are scattered over the interior in numbers excessively small. Social order is here of a very singular and ill-harmonising kind, being composed of three distinct elements: the native tribes, so low in the scale of humanity that not even the convicts will unite with them; the convicts transported; and the voluntary emigrants, between which two latter classes there is almost as entire a separation.

The native population belongs to the class of Papuas, or Oriental negroes, who occupy also New Guinea and the interior of the Indian Archipelago. They have the thick prominent lips, white teeth, and in Van Diemen's Land, the woolly hair, of the African negro; but their nose is less flat, and their limbs much leaner. Here "human nature wears its rudest form." The theories of those philosophers who have represented man in the savage state as in the perfection of his being, and his evils as arising from the artificial arrangements of society, find here their most ample refutation. All idea respecting the fabled innocence of the state of nature must vanish on viewing the New Hollander. The state of nature is, indeed, complete. There is no society, no government, no laws; each man acts according to his own fancy and caprice. The arts of life exist in their first and rudest elements. Fishing is their main occupation; yet their canoes are rude beyond all comparison, consisting of a sheet of tree-bark folded and tied up at each end. The native of Dampier's Archipelago has merely a log, on which he sits astride, guiding it with a paddle (*fig.* 904.), certainly the rudest existing attempt at navigation. In other quarters, canoes are hollowed out from a piece of wood merely sufficient to hold a single person, who, in various attitudes, sits and steers them (*fig.* 905.). The people were found wholly unacquainted either with planting, or the breeding of tame animals, and deriving their support solely from hunting and fishing, chiefly the latter in which they display a certain skill. Some erect weirs at the mouth of the rivers and small bays; others show tolerable dexterity in striking the fish with spears (*fig.* 906.). Those in the interior subsist with still greater difficulty by collecting the roots and berries which grow spontaneously, pursuing and laying snares for the squirrel and opossum, and even devouring worms and grubs that are found in the trunks of trees. Their huts are of the rudest possible description, resembling the dens of wild beasts. They consist often of the bark of a single tree, bent in the middle, and placed on its two ends in the ground, affording shelter to only one miserable tenant. At other times, two or three pieces of bark, put together in the form of an oven, afford hovels, into which six or eight persons may creep. But they often content themselves with cavities in or under the shelter of rocks, which, in well-chosen situations, form their most comfortable abodes. They roam about entirely naked, except a girdle round the middle, and occasionally a skin thrown over their shoulders. They are not, however, insensible to ornament, for which purpose the skin is thickly coated with fish-oil, regardless of the horrible stench which it emits; to which embellishments are added the teeth of the kangaroo, the jaw-bones of large fishes, and the tails of dogs. On high occasions, they smear their faces with a species of red and white earth, which renders them perfectly hideous; to say nothing of the scars, sometimes tracing the forms of birds and beasts, which they cut into their bodies. Meantime they are well provided with arms, shields of bark or hard wood, and spears of various forms and lengths, either pointed, jagged, or barbed. These they throw with such skill, as usually to strike even at the distance of seventy yards. They have nothing that can be called war; yet their whole life is one continuous fight. The procuring of food, according to Collins, appeared to be quite a secondary object; the management of the spear and shield, agility in attacking and defending, and a display of constancy in enduring pain, seemed to be their first object in life. The only respectable mode of fighting is by single combat, the challenge to which is given and accepted with equal alacrity. The laws of honour, as they are called, are as strictly

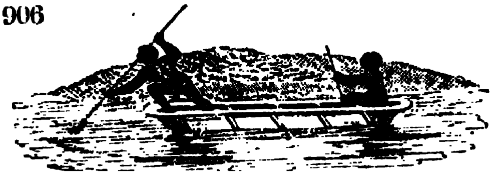
904

Native on his Log.

905

Canoes with one Man.

906



Spearing Fish.

observed as among the most punctilious European duellists; they even throw back their adversary's weapon, when it has flown harmless by them. Yet they do not hesitate, under the impulse of revenge, to commit midnight assassination; though this is not sanctioned by public opinion, and always leads to bloody revenge. Their treatment of the female sex is of all other particulars the most atrocious. Their courtship consists in the most brutal violence. The intending husband, having contrived to find alone the unhappy victim of his inclination, begins by beating her to the ground with a club, then accumulates blows upon blows, till she becomes altogether senseless, when he drags her to his hovel, regardless of her striking against shrubs and stones, till, under such promising auspices, she is fixed in his domestic establishment. All their subsequent life is of a piece with this outset. Several of the colonists in vain attempted to count the scars with which the heads of these unfortunate females were variegated. These people seem to have nothing which can be called religion, but they have superstitions, such as a belief in spirits, and in some uncouth forms of witchcraft. The grandest ceremony of their life consists in a sort of initiation of the youth, by which they are entitled to assume spear and shield, and to fight. There is a general assemblage of the tribe and neighbourhood, and, after a variety of strange ceremonies or dances, consisting chiefly in imitating the gestures and movements of the kangaroo, the youth has a tooth struck out, and is thereby invested with all the prerogatives of manhood. All attempts to wean them from this mode of life have been abortive. Bennillong, one of them, was induced to go to England, was there dressed after the English fashion, behaved with tolerable propriety, and appeared to enjoy himself; but immediately on his return, he found himself deserted and despised by his countrymen for these foreign attainments, and lost no time in resuming his nakedness, his wildness, his spear and his club. As is usual among savages, and in this case but too natural, they have done no more than add the vices of the newly arrived colonists to their own. They have learned drinking, thieving, and importunate begging. Endowed with great talents for mimicry, they readily acquire the language, and become complete adepts in the slang of St. Giles's; and in the war of words with the convicts they fearlessly encounter the most able veteran, and generally come off victorious.

The convict English population form, at present, the most prominent branch of society, being those, with a view to which the colony was actually formed, both that England might be rid of them, and the southern world be benefited by them. These unhappy persons have here means of retrieving their character and place in social existence, which they could never have attained at home. The very community of penal infliction renders their situation less deeply humiliating. The term convict has, by tacit convention, been erased from the English language as spoken in New South Wales. On first landing, they are called canaries, in reference to the colour of the habiliments in which they are invested: but after due probation, they are exalted to the name of government-men, which continues to be the received appellation. They are first employed in the public works, under strict surveillance; but as their conduct appears to admit of indulgence, they are distributed as farm-servants among the new settlers. Of course, the experiment must, in many instances, fail. The numerous runaways form a dangerous and destructive body, called the bush-rangers, who, in both colonies, but particularly in Van Diemen's Land, have often disturbed the peace of the interior districts, and rendered property, and even life, precarious. They conduct their plunder on a great scale, and even with forms of honour and courtesy which seem very foreign to its nature. The vigorous measures of government have now put down the system; first, in the old colony, and now in the new. Of these misguided fugitives some, under the most woful ignorance, imagine that, by wandering through the deserts of New Holland, they will come at length to some civilised country, Timor, China, and even Ireland; and one of them, after long wanderings, imagined he had found such a country, till it appeared that his devious course had brought him again within the fatal precincts of the colony. However it is a most important circumstance, as already stated, that the majority make very tolerable servants; nay that many, on arriving at the character of emancipists, set up trades which they carry on in a very prosperous manner. They are even said to maintain a more punctilious honesty than the same class of tradesmen at home; conscious, from the delicate footing on which their character stands, that the smallest slip would be sufficient to overthrow it, and make them be considered as having thoroughly relapsed into all their old habits. It is an observation important beyond all others, that the young men born in the colony, of convict parents, acquire generally a character the reverse of that of which the example is set to them by their progenitors. This example seems rather to act upon them as a warning of the misery and degradation which irregular conduct produces. The fair sex, we are sorry to find, are the most turbulent part of society, both in coming out, and after their arrival. They are said to place trust in many circumstances which may prevent the arm of the law from pressing on them with extreme severity, and the great disproportion of their number to that of the other sex, being as one to ten, gives to each an importance which they are apt too highly to value. So many are the candidates for any fair hand which may happen to fall vacant, that a state of widowhood is scarcely tenable for the shortest period; and the lady has hardly time to array herself in weeds, when arrangements are made for fresh nuptials. The young females being thus too much an object of courtship, and irregularity of conduct being no bar to the matrimonial state, they do not always confine themselves within the strict limits of propriety. It seems impossible to contravene the position of Mr. Wentworth, that the most patriotic and valuable consignment which could be made to the southern continent would be that of a cargo of females. Accordingly, arrangements have been recently made, by which those of respectable character, under the age of thirty, on payment of the sum of 5*l.*, are conveyed to Australia, where they are immediately provided with employment, in the expectation of their being soon united to a suitable partner.

The voluntary emigrants form a third class, not distinguished by such marked features. They come out with the view of finding or making a country and society as like as possible to what they had left at home. In the towns, especially, the habits of fashionable society in England are almost punctiliously copied, though of course on a reduced scale. The pride of station is said to be carried to an extravagant height, as is usual among those who have the least pretensions to it. But the most deep-rooted and unhappy distinction is that which the emigrants can scarcely fail to make between themselves and the freed convicts, or, as they are termed, *emancipists.* The emigrants *pure* refuse to hold any social intercourse with this class, and brand as *confusionists* those who admit them at all to their houses or society. This treatment is borne most indignantly by the emancipist, who has been admitted to a complete footing of political equality, with the exception of not being summoned upon juries at quarter sessions. He himself, however, has established a similar distinction between the emancipist *pure*, who, since his landing, has maintained an irreproachable character, and the emancipist *impure*, who, having come out as an offender, has been committed and punished for fresh offences within the colony. These distinctions have been the sources of deep and lasting feuds. Governor Macquarie made great efforts to equalise and unite the classes; but, endeavouring to carry his point rather by power and authority than by time and conciliation, he only widened the breach. Meantime the emigrants have constituted another classification among themselves, expressed by the fanciful title of *sterling*, or natives of the mother country, and *currency*, or those born in the colony. The currency are said to be fine-spirited youths, yet, from some cause of climate or country, they have the same tall form and pallid aspect which present themselves in the children of the back settlements of America. In return for the unjust ridicule with which they are treated as *currency*, they adhere closely to each other, and have an exclusive attachment to the land of their birth, with a contempt for the mother country, which is generally by no means lessened by a visit to it.

Religious instruction, and the elements of education, were obviously of the first importance, with a view to the reformation which it was proposed to effect by such a colony. It was, therefore, a most lamentable omission, which appears from the narrative of Colonel Collins, that for several years there was not a church in the colony, nor a school, except such miserable ones as a few of the convicts set up for their fellow offenders. Much is now done to repair this gross failure. There are, at least, fifteen clergymen of the church of England, and an archdeacon, under the diocese of India, and two Presbyterian and one Catholic clergymen, all paid by government. In 1830 there were 37 churches, the maintenance of which cost 10,941*l.* Besides the male and female orphan schools, day-schools are supported in every part of the colony, the whole number in 1830 amounting to 308, costing 13,292*l.*; and the means of elementary education are thus placed within the reach of the whole colony. One-seventh part of the land in each county is now reserved for church and school purposes, nine-tenths of which are devoted to the church, and the remaining tenth to national schools under the management of certain incorporated trustees. The Wesleyans have also sent out several missionaries, whose exertions, both in preaching and in teaching Sunday schools, appear to have been highly useful. Literature, amid the pressure of so many more vulgar wants, cannot be expected to have taken deep root; yet, under the auspices of Sir Thomas Brisbane, there was formed a Philosophical Society, and some valuable papers were contributed to it. According to Mr. Field, in his preface to a collection of those papers, that infant society soon expired in the baneful atmosphere of distracted politics, but he fondly hopes it may prove to be only a case of suspended animation.

SECT. VII.—*Local Geography.*

In considering the local divisions of Australasia, the prominent place must, of course, be given to its great central mass of continent, chiefly with reference to the British settlement formed there. It has been now divided into counties, certain districts being called respectively Cumberland, Camden, and St. Vincent, on this side of the Blue Mountains; Westmoreland, Georgiana, King, Argyle, and Murray, to the south; and Roxburgh, Cook, and Bathurst, to the west, of that great barrier. To the north of Sydney, divided by Hunter's River, and the county of Hunter, are placed the counties of Northumberland, Durham, and Gloucester on the east, and Phillip, Wellington, Brisbane, and Bligh on the west of the dividing mountains. The remainder of these vast regions has not yet been brought under any political nomenclature.

Cumberland forms the original, and still the only fully settled portion. It has about fifty-six miles of coast, comprehending the noble harbours of Broken Bay, Port Jackson, and Botany Bay. Behind, the Hawkesbury, with its head, or tributary stream, the Nepean, makes an entire circuit round it; beyond which the broad and steep mountain ridge shuts in the county, leaving to it a breadth of only forty miles. The soil on the coast, as is the case generally throughout this continent, is light, barren, and sandy. In advancing into the interior, it improves, is covered with fine though not thick woods; and, though of a somewhat poor clay ironstone, yields tolerable crops. Along the inundated banks of the rivers there is found a great luxuriance of natural pasture; but the inundation renders precarious the crops which are raised in these highly fertilised valleys. This province has already four towns of some importance, Sydney, Paramatta, Windsor, and Liverpool.

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View of Sydney.

Sydney (*fig.* 908.), the capital of the New Southern World, is situated upon the cove bearing its name, which opens from the spacious basin of Port Jackson. This vast inlet passed unnoticed by Captain Cook, whose attention was engrossed by the neighbouring harbour of Botany Bay, also excellent and attractive by its rich and varied vegetation. When Governor Phillip, therefore, was sent out, in 1788, to occupy New South Wales as a penal settlement, his destination was for Botany Bay, a name which long continued to be given to the whole establishment. But when he came to examine the coast, he soon discovered this new harbour, which was so superior to the first, and to almost any other ever yet seen, that he hesitated not a moment in fixing his colony upon it. From an entrance not more than two miles across, Port Jackson gradually expands into a noble and capacious basin, having depth of water sufficient for the largest vessels, and space in which a thousand sail of the line might manœuvre with the greatest ease. It stretches about thirteen miles into the country, and branches into not less than a hundred small coves, formed by narrow, rocky, yet wooded necks of land, which afford excellent shelter from every wind. From amongst this ample choice was selected Sydney Cove. It is more than half a mile long and about a quarter broad at its mouth, whence it gradually narrows to a point. For about two-thirds of the length it has soundings of from about four to seven fathoms, and is perfectly secure from all winds; for a considerable way on both sides, ships can lie almost close to the shore, nor is the navigation in any part rendered dangerous by hidden rocks or shallows. The scenery, composed of rocks and hills covered with wood, and the shore diversified by numerous cliffs, is highly striking and picturesque. "The first occupation of this new world, the appearance of land entirely untouched by cultivation, the close and perplexed growth of trees, interrupted here and there by barren spots, bare rocks, or places overgrown with weeds, flowering shrubs, or underwood intermingled in the most promiscuous manner; then the landing, the irregular pitching of the first tents, where there appeared an open spot, or one easily cleared, the bustle of various hands employed in the most incongruous works,—all these gave a striking character to the first settlement." The town of Sydney is built at the head of the cove, on a rivulet which falls into it, and in a valley between two opposite ridges. That on the right, called the Rocks, was built first, and in the most irregular manner, each man studying his own convenience, without the least reference to any general plan. Governor Macquarie, however, determined to enforce a principle of *alignement*, and, under his direction, the principal street, called George Street, was carried in a straight and broad line of a mile, along the left ridge. Similar regularity was required in the smaller streets branching from it, and even the Rocks were brought into some sort of shape. That quarter continues, however, to be occupied by an inferior class, while all the fashionable houses are on the left side. The best houses are of white freestone, or brick plastered, and have a light and airy appearance. Many of them being surrounded with gardens, they occupy a great extent of ground. The population of Sydney is 16,230, including 2740 convicts. The hard material of the streets renders paving unnecessary, but lighting has been lately introduced. A British air is studiously given to every thing; yet the parrots and other birds of strange note and plumage, and the show of oranges, melons, and lemons, in the market, bespeak a foreign country; while a sadder tale is told by the gangs of convicts in the employ of government, marching backwards and forwards in military file, with white woollen frocks, and gray jackets besmeared with sundry numerals in black, white, and red; and sometimes, by way of punishment, with the chains jingling on their legs. But the police is so good, that even in this strange society property and person are said to be in security. "Elbowed by some daring highwayman on your left hand, and rubbed shoulders with by even a more desperate burglar on your right, while a footpad stops your way in front, and a pickpocket pushes you behind,—you may jostle through the crowd with the most perfect safety." The principal public buildings are the governor's house, built at various times and by successive governors from Phillip to Darling, and having in front a very fine plantation of English oaks and Cape pines, the walk round the outside of which forms the favourite recreation of the citizens; the barracks, occupying one entire side of the principal square; the convict hospital, a large tripartite stone building with verandas all round to both stories, a smaller military hospital, a handsome convict barrack, a court and school house, &c. The gaol is bad and old, but a new one is building. Sydney has two English churches, St. Philip's and St. James's; also a handsome Gothic Roman Catholic, a plain Presbyterian, and a large Wesleyan Methodist chapel. A monthly magazine was once published by the Wesleyans, chiefly with a view to religious objects, and several well-established newspapers appear.

The other towns of Cumberland are in a rising state, but have not yet attained much importance. Paramatta, called formerly Rose Hill, is situated at the head of Port Jackson, and separated from Sydney by a flat and uninteresting country. Its harbour being unfit to receive vessels of burden, and the surrounding territory unproductive, it has not made the same rapid progress, and its population is 2637. Its importance consists chiefly in carrying on the communication between the capital and the interior. It is merely a large assemblage of detached houses with gardens, without much arrangement; but there is a good government-house, a beautiful garden, and extensive natural pleasure-grounds; and here, the late governor, Sir Thomas Brisbane, constantly resided, and attached to his house an observatory. Windsor is about forty miles in the interior, at the head of the Hawkesbury navigation. It is finely placed at the base of the Blue Mountains, whose forest ridges are seen towering successively above each other. It has 1000 inhabitants, who are chiefly cultivators, and the ground in the neighbourhood is rising in value, especially those parts which are out of the reach of inundation. It is well laid out, has a small government cottage, a church, a gaol, a handsome court-house, and the other usual appendages of a country town. Richmond and Wilberforce are, as yet, only hamlets. Liverpool was founded, somewhat prematurely, about fifteen years ago, by Governor Macquarie, and for some time its existence was only indicated by a post, saying, "This is Liverpool;" but it has now a good church, and is beginning to speak for itself; and though not lying in a very fertile country, yet, affording a route to the fine agricultural and pastoral districts of Camden and Argyle, it is a place of considerable bustle, and daily increasing in importance. Campbell Town, in the fine district of Airds, is yet only in its infancy; but it has a church and a court-house.

Camden county is situated partly in the interior behind Cumberland, and partly along the coast southward from it. The Morrison and other ranges render it a hilly and even mountainous country, the hills rising steep, like the roof of a house, leaving between them only narrow gorges, through which flow rivulets which unite in forming the Nepean. Hence this county, though generally affording fine pasture, is fit for the plough only in particular parts, which, however, are exceedingly rich. It is peculiarly so in the district of Illawarra, or the Five Islands, on the coast. Here the most luxuriant vegetation prevails, and the trees, shrubs, and even birds, are entirely different from those of the rest of the colony. The cedar, the cabbage tree, the pine, the tree-fern, the black cockatoo and the green pigeon, make the spectator think himself in a new quarter of the world. The land is too closely timbered to be easily brought under cultivation; though much of that timber, being of cedar, is valuable; yet the soil is so very rich, that a great part of it has already been occupied. This district is separated from Sydney on the land side by a range of precipices, down which a wagon can scarcely be driven. It therefore depends upon water communication, which is greatly facilitated by the Shoalhaven River, navigable twenty miles up for vessels of eighty or ninety tons.

The counties of Argyle and Westmoreland form a large extent of country, situated to the south-west of the territories now described, lying partly upon the Blue Mountains, partly to the east, and partly to the west of that ridge. On the highest track are two considerable lakes, called Bathurst and George. It is only since 1819, that the enterprise of the colonists has opened it to our knowledge, and the descriptions have somewhat varied, and have even, according to Mr. Wentworth, been tinctured with party spirit. It appears that the territory is crossed by large tracts, called brushes, that are altogether unproductive. The greater part, however, yields at least tolerable pasturage, and some appears fit for any species of culture. The most distant and best are the plains, or rather downs, of Monaroo, beyond Lake George, which are of great extent, clear of timber, and fitted, seemingly, either for agriculture or pasturage. These were first visited and surveyed by Captain Currie, in 1823. Grants have here been taken, at the distance of 160 miles direct from Sydney, and 30 miles from the sea, with which last there promises to be an easy communication, either by Jervis Bay, or by the newly discovered river Clyde, falling into Bateman's Bay. There seems some reason to think that these fine plains may extend the whole way to Western Port.

Western Port is situated on the southern coast of New Holland, within Bass's Straits, ninety miles from their western extremity. The river Murray falls into it, forming an estuary thirty miles broad, with a large island in the centre, called Phillip Island. The harbour and anchorage are excellent; but the river cannot be approached even by boats at low water, owing to the extensive mud-banks which surround its entrance. It is extremely winding in its course, and salt for five or six miles up, where it is met by a fresh-water rivulet, taking its rise from an adjoining swamp. The country for sixty or seventy miles along the coast, and for fifty miles inland to the mountains, is described as the finest ever beheld, resembling an English ornamented park, with trees only thinly scattered in picturesque groups. The climate is cool and salubrious; and the position is also somewhat nearer to England. From Twofold Bay, near the southern extremity of the eastern coast, Messrs. Hovell and Hume travelled thither in a line parallel with the sea, but within the mountains, a distance of nearly 400 miles, and always through beautiful, well watered, and thinly timbered lands. The opening for settlement and prosperity on this side of the continent seems, therefore, to be immense.

The region to the west of the Blue Mountains, discovered by Messrs. Blaxland, Wentworth, and Lawson, and surveyed by Messrs. Oxley and Evans, has been a most important acquisition to the colony, and has given a new character to its condition and prospects. It was found, as already observed, to be traversed by two large rivers flowing into the interior, the Lachlan and the Macquarie. The former presented the most dreary and hopeless aspect. All the flat country bordering it was subject to its sudden and destructive inundations, which swept all before them without producing any fertility. It constantly diffused and extended its waters over low and barren deserts, creating only low flats and uninhabitable morasses. Nothing could be more melancholy than the appearance of the level and desolate regions through which this river winds its sluggish course. The Macquarie, on the contrary, is a noble river, the inundations of which are so confined by primary, or at least by secondary banks, that they never produce any destructive effect. The shores present many highly picturesque scenes, and they consist generally of rich flats, or open valleys lightly timbered, and thus offer every advantage to the settler, alloyed, indeed, by the evil of being separated from the coast by the steep ridge of the Blue Mountains; but even this has been recently lightened by the discovery of a more level and direct route.

The banks of the Macquarie have been made to divide two counties, Roxburgh on the right, and Bathurst on the left bank. Extensive locations have now been made on Bathurst Plains, in the former county, which might more properly be called downs, as they form a succession of gently swelling hills, 50,000 acres in extent, clear of timber, and covered with luxuriant herbage. But the south side of the river is still reserved by government. At the fine valley of Wellington, seventy miles down the river, a government depôt for convicts has been formed; but these, it is expected, will soon be made to give way to more eligible settlers. The heavy carriage discourages the raising of grain in these districts; but the stock farms are already very extensive, and Sydney is, in a great measure, supplied with cattle from them. Cheese is also made, of good quality, and wool is a rapidly increasing and improving article of export. Bathurst is now assuming the aspect of an English country neighbourhood. It has a literary society, composed of twenty members, and there is the "Bathurst Hunt," whose chase is the native dog, an animal as destructive to the lambs as the fox. Being 1800 feet above the sea, it enjoys a climate remarkably cool and healthful.

On the north side of the colony there extends a succession of fine rivers, the banks of which are in the course of being rapidly settled and cultivated.

Hunter's River, the banks of which are now dignified with the titles of Northumberland and Durham, is situated fifty-five miles to the North of the Hawkesbury; but the road by land is nearly ninety miles. It rises from the continuation of the Blue Mountain range, which is here more distant from the sea than in the first settlement, and follows a course of 140 miles, during which it receives from the north William's and Paterson's rivers. On these, and for 100 miles up Hunter's River, settlements were formed when Mr. Cunningham left the colony, and the whole, we understand, has now been located. The soil is various, but contains many fine tracts, among which that of Wallis's Plains has only the disadvantage of being very closely timbered; but when cleared, the soil is most luxuriant. A hundred and twenty miles in the interior begins that vast extent of fine pastoral country, called Liverpool Plains, discovered by Mr. Oxley, at the end of his last journey, and into which the tide of settlement is beginning to pour, through a pass which Mr. Allan Cunningham, the botanist, has discovered from Bathurst, and routes which he and Mr. Dangar, the deputy-surveyor, have severally effected from Paterson's River. This river has also the advantage of very extensive mines of coal at its mouth, from which Sydney is supplied, and which has procured for the capital of the settlement the popular name of Newcastle, but its original name is King Town. This was opened as a mere convict station; but as soon as it was discovered to be so eligible, the convicts were removed to the Hastings River at Port Macquarie, and Hunter's River was given up to settlers. Newcastle, however, is yet only a cluster of brick and wood cottages, but its importance is rising with that of the settlement, and wharves and stores are beginning to be erected. Maitland is the most thriving town in this section, containing 1500 inhabitants.

The river Hastings with the country round it has since, in its turn, been made a free settlement. The Hastings was discovered, as already observed, by Mr. Oxley, on his return from his second journey. It is not very important, in a navigable view, since it cannot be ascended more than ten miles by vessels of any size; but it flows through a great valley, extending for fifty miles inland, till it reaches the Blue Mountains, and with a breadth nearly uniform. This tract is various, but generally broken into a pleasing undulation of hill and dale, and consisting mostly of what is called open forest, by which is meant grass-lând, lightly covered with good timber, and free from the peril of inundation. Captain King remarks, that there are here 12,000,000 acres, in which it is difficult to discover a bad tract. It is in general finely watered with clear small streams; an advantage not enjoyed by the more southern districts of the colony. The climate is nearly tropical, and rather too hot for wheat, which is apt to be burnt up or to run into straw; but maize and rice would, of course, flourish; and sugar and tobacco have been tried with success. The inland dividing Blue Mountains are very rugged and lofty, rising 6500 feet; but to the south-west of these mountains is the extensive range of pastoral districts called Liverpool Plains. Port Macquarie is a bar-harbour, into which vessels drawing more than nine feet of water cannot safely enter; and they must be on their guard against a sunken rock on the south side; but there is good anchorage without, and the shore is not dangerous. A convict establishment was formed here in 1820; but since the quantity of good land became unequal to the demand for it, the convicts were removed to the still more remote station of Moreton Bay, and Hastings River is laid out for settlers. Not far from hence there was recently discovered another river, navigable for vessels of 300 tons to fifty-seven miles from its mouth, and which falls into Trial Bay. The banks consisted of open pastoral forest, hills with alluvial untimbered plains holding out the most flattering prospects to the settler; and from a high hill upon this river, another large river was seen forty miles to the northward, discharging itself into the sea from the north-east. Southward, again, between Hastings and Hunter's river, Port Stephen's receives another stream, called the Karner, whose banks, notwithstanding the first unfavourable reports, Mr. Dawson, the late agent of the Australian Agricultural Company, found to contain 1,000,000 acres of good land.

The Brisbane is the latest discovered and the largest fully surveyed river which is found on the eastern shores of Australia. Moreton Bay, into which it falls, had been observed by Captain Flinders, who discovered one small river falling into it, but took only a slight view of the western shore. Here, however, in December, 1823, Mr. Oxley discovered a channel, bearing all the marks of a large river. He accordingly sailed up fifty miles, during all which space it continued navigable, as he thought, for vessels not drawing more than sixteen feet of water. A ledge of rocks then ran across, not affording more than twelve feet of water. It was traced, however, for more than twenty, and seen for forty or fifty miles farther, still without any apparent diminution of magnitude. The country was generally of the finest description, alternately hilly and level, but nowhere inundated; the soil equally adapted for cultivation and pasturage, covered with abundant and very large timber, particularly a magnificent species of pine, which seemed sufficient for the topmasts of the largest ships. From the slowness of the current, the depth of water, and the level aspect of the country, so far as it could be traced, there appeared reason to think that it was now very distant from any mountain source; and, on considering its position, a conjecture arose in some minds that it might be the ultimate termination of the Macquarie, after that river had issued from the reedy lake in which it appeared to be lost. Mr. Oxley himself thought it would be found to flow, not from the Macquarie marshes, but from some lake, the receptacle of those interior streams to the south-west, crossed by him in his land expedition of discovery in 1818, namely, Parry's Rivulet, Bowen and York River, Field's River, and Peel's River. And Mr. Field has shown, in his Geographical Memoirs, that it is not probable that it can be the outlet of that inland lake in which the river Macquarie was found to terminate, since the whole course of that river for 300 miles is north-west, and it would require an immediate regular diversion to the north-east for nearly 400 miles to reach Moreton Bay, and then the height of its head above the level of the sea would allow the whole river only a fall of about two feet per mile, whereas the Macquarie falls already in one place 437 feet in little more than 50 miles, and in another 750, in about the same number of miles. These speculations have been since set at rest. "In the year 1825," says Major Lockyer in his official report to the governor, "I traced the river Brisbane, as far as it was practicable to do with boats, and then by land, to where I consider it to take its rise, on a large mountain to the north-west of the settlement, after making a very circuitous course of 200 miles. On leaving the boats, I proceeded along the banks for two days, when I came to a bed of shingle with a very small stream, not three feet wide and six inches deep, which in the summer months I have no doubt is quite dry. At this time the river, where the boats were left, had risen from six to eight feet from the late rains; and as this place, not fourteen miles above, had not the least appearance of a rise, it convinces me that the Brisbane River has its chief supply from the Brisbane Mountains." And Mr. A. Cunningham is of opinion that Parry's, York's, Field's, and Peel's Rivers fall into the Darling. Major Lockyer also found that vessels of a large size can go into Moreton Bay by the passage at Amity Point; and that in a good channel all the way to a good anchorage inside Peel's Island, there is not less than 4½ fathoms water. Major Lockyer took the very same cutter, drawing ten feet water, which Mr. Oxley had on his expedition, prudently anchored in the bay, easily got over the bar at the mouth of the river, and is confident that such a vessel could go nearly thirty miles higher up. The entrance of Moreton Bay is tolerably safe, and Red Cliff Point, ten miles from the mouth of the Brisbane, or the western shore of the river itself, affords commodious harbours. The settlement is quite in its infancy, and is yet only penal, nor were there in 1826 more than eighty-five acres brought under cultivation; but the period cannot be very distant when it will become one of the most flourishing portions of the colony.

The remainder of the east coast of New Holland, though viewed by Captain Flinders, has not been examined in any complete or satisfactory manner. Its general aspect is low and sandy, diversified with sand hills, covered however with a rich vegetation, becoming more and more tropical in its character. The coast is rich in fish, particularly turtle. Islets, single or in groups, are scattered along the whole of its extent. No attempt having been made to penetrate the country to any depth, or even to explore the coast minutely, it is highly probable that many fertile tracts of land may yet be found, as well as large rivers. Four, indeed, have been lately discovered: viz. the Clyde, in Bateman Bay, and the Boyne, in Port Curtis, which did not afford much promise; the Darling, under Mount Warning, and the Tweed, close to Point Danger; which have not yet been satisfactorily explored.

The northern coast begins at Cape York, the most northerly point, opposite to which is the coast of New Guinea. The interval is called Torres' Strait, and is filled with various islands and groups of islands, among which last those of Prince of Wales and Clarence are the most numerous. Immediately afterwards opens the vast Gulf of Carpentaria, stretching about 650 miles inland, and 400 miles across. It was successively visited by the commander of the Duyfhen, Torres, Carstens, and Tasman, who all, however, viewed it under the impression of its being part of the opposite coast of New Guinea. Cook, in 1770, by sailing through Torres' Straits, dispelled this error; but it was still supposed that the vast opening might be an oceanic channel, dividing into two parts the east and west of New Holland. The coast was in general low, sandy, barren, beset with shallows, and sometimes with coral rocks; but woods and rich grass were seen in the interior. Numerous torrents descended from the mountains, and afforded a good supply of fresh water; but no river of any magnitude could be discovered; and Captain King considered this observation of Captain Flinders so satisfactory, that he did not repeat the search.

Arnheim's Land, beginning at Cape Arnheim, which terminates the Gulf of Carpentaria, extends for upwards of 300 miles to the entrance of the Bay or Gulf of Van Diemen. It was almost unknown till the late careful survey made by Captain King. He found the woods sometimes luxuriant, and the vegetation rich. At other times, the trees were low and stunted, and the country had an almost desert aspect. Water was, in general, either found, or there was reason to believe that it existed. A river, the Liverpool, was discovered, which, at the mouth, was four miles broad; but after ascending by a winding course of forty miles, it dwindled to a trifling magnitude. There were a considerable number of tolerably large islands, Wessel's Islands, Goulburn Islands, &c. At its western extremity was found Port Essington, one of the finest of the many fine harbours on this continent, and which, from its situation in the direct line towards Port Jackson, from India, must become of great future importance.

Van Diemen's Bay and Land form a portion of the continent on which Captain King landed. This gulf, named like the island of the same name from a Dutch governor-general of India, had been explored to a certain extent; but its real magnitude was by no means suspected. Captain King sailed completely round it, and discovered two large estuaries, which he named Alligator rivers, and the largest of which, after being traced upwards of 36 miles, was still 150 yards broad, and two or three fathoms deep. The western coasts had been hitherto supposed to be those of a large peninsula projecting so far as to leave only a narrow entrance into the bay; but they were now found to consist of two large islands, Bathurst and Melville, the former of which was 200 miles in circumference, and the latter 120.

The soil and climate being fitted for growing all the vegetable productions of the East, particularly spices, and the situation being also commodious for the refreshment of vessels proceeding between India and Port Jackson, and adapted for the purposes of British trade with the Malays, it was determined, in the year 1824, to form a settlement upon Melville Island. Captain Bremer was accordingly sent from England in the ship Tamar, and sailed thither from Port Jackson, with a party of troops and convicts, and on the 21st of October, of that year, laid the foundation of Fort Dundas, in Port Cockburn, which appears to have not answered its intentions, and has therefore since been abandoned. The Dutch, we may observe, send annually to this coast, from Macassar, a fleet of perhaps 200 proas, for the purpose of catching the *tripang*, or sea slug, a gelatinous marine animal, for which there is a constant demand, as an article of food, in China. It is taken by diving, and is preserved by being split, boiled, and dried.

De Witt's Land consists of a large extent of coast, about 600 or 700 miles long, facing the north-west. De Witt, however, had not the honour of its first discovery, which was made by the ship Vianen in 1628. Tasman and Dampier have given some hasty notices of it, and Baudin touched at some of its exterior points; but the only detailed survey, and that not complete, was made by Captain King. The low, flat, woody shore, which has continued for 600 miles, here ceases, and the general character of the coast is rocky, rugged, and even arid; fresh water being to be procured only at a few points. The coast is deep, indented by bays and gulfs, and bordered by numerous clusters of small islands. Cambridge Gulf is a long, narrow inlet, presenting, at first, the appearance of its being the mouth of a river; but none was found. Port Warrender is a noble harbour, but does not afford fresh water. York Sound is a very spacious bay, receiving two small rivers; but Brunswick Bay, which quickly follows, receives Prince Regent's River, the largest yet known to fall into the north-western coast. It was traced 60 miles up, when it had still a breadth of 250 yards. On this river there is a waterfall of a very striking and singular aspect (*fig.* 908.); the stratified form of the rock causing the stream to appear as if falling down a range of steps. At length, Captain King came to a broad opening, called Cygnet Bay, which by an intricate channel he traced upwards for fifty miles, when he was obliged to return; but from the tides and other circumstances he is inclined to believe that it communicates with Collier's Bay to the southward, and forms this part of New Holland into a large island.

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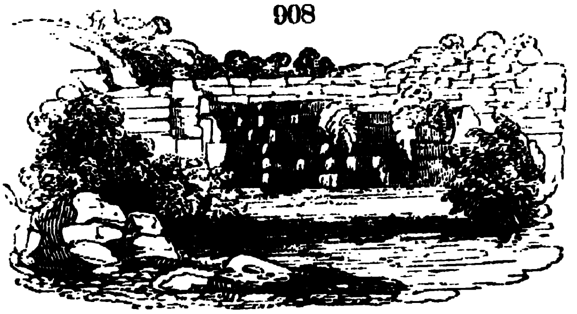

Waterfall, Prince Regent's River.

The western coast, consisting of Endracht's Land, discovered in 1616 by Dirk Hartog, in the ship Endracht; of Edel's Land, discovered in 1619 by a Dutch navigator of that name; and of Leeuwin's Land, discovered in 1622 by the ship Leeuwin, is all of the most desolate and dreary description. It was examined by Dampier and Vlaming, and afterwards by Flinders, Baudin, Péron, and Freycinet; but by all without any cheering or promising discovery. Almost everywhere it consists of a ridge of low steep rocks, bordering on a sandy shore, accessible to boats only in a very few points. There are occasional openings, or rather rifts in these rocks, through which torrents sometimes pour, but without any enlivening or fertilising influence. Vegetation is either wholly absent, or its products include nothing that is fit for the use of man.

In this dreary shore, extending for 800 miles, there are only two important openings, one made by the Swan River, to which a little naval expedition under Captain Stirling was sent in 1826, when the brackish stream was explored for 50 miles, and the report which was made of the country on its banks was so highly favourable, that a western settlement, which had always been a desideratum, by reason of its much shorter distance from England, was formed there in the year 1829, under the government of Captain Stirling; but we are afraid that the emigrants to Swan River have met with at least as many disappointments and privations as usually attend upon new colonies. This settlement, being yet beyond the reach of New South Wales by land, was, by a temporary act of parliament, erected into an independent colony, by the name of Western Australia, and regular grants of its lands have been made to capitalists, who have taken with them free labourers; but the fertility of the soil had evidently been exaggerated, and however objectionable, in a moral and political view, may be a convict colony, the rapid progress of New South Wales and Van Diemen's Land has been proved to have been in a very great degree owing to the cheap and compulsory labour afforded by transported prisoners. The population of the colony is estimated at about 3000; the capital is the little town of Perth, on Swan River.

The latest accounts from Lieutenant-governor Stirling, of Western Australia, are to be found in the following extract from the second volume of the Journal of the Royal Geographical Society:—"The only products of the country of any value at present are its timber, which is inexhaustible and of excellent quality, and its grasses, which afford feed of superior quality for sheep, horses, and cattle. There is a good species of tobacco and perennial flax, similar to the kind usually cultivated in Europe; but these are as yet only valuable as indicative of the capabilities of the soil.

"For some time back, registers of the weather have been kept at King George's Sound and at Perth, the capital of Swan River; and hereafter it will be possible to ascertain with precision the ranges of the temperature, the barometrical pressure, and the degree of moisture in these districts, compared with other countries. At present, after three years' experience of the climate of the Swan River district, it may be said to be exceptionable only in the months of January, February, and March, when the heat and drought are as disagreeable as they can be without affecting health. The district of King George's Sound being exposed to southerly winds in summer, and frequently visited by showers, is the most equable, perhaps, in the world, and the most temperate. The heat on the west coast is certainly intense, and the mosquitoes, which abound there in summer, are serious evils in their way, and have caused some dislike to this part of the country as a place of residence. But notwithstanding these and other local and trivial objections, the climate, the ports, the position, and extent of the country, are such as fit it to be the seat of a wealthy and populous possession of the crown; and I feel justified in saying, in this stage of its occupation, that it will not fail to become such, from any natural disqualification of the soil."

The other is Shark's Bay, in Endracht's Land, which penetrates deep into the coast, with many windings, and would form an excellent harbour, but for the total absence of fresh water. To the south are some mountains, called Moresby Range by Captain King, and another, called, by the French, Mont Naturaliste; and the coast was here somewhat wooded. Notwithstanding its general sterility, the natives appeared as numerous as in any other quarter; and as its rocky barrier has been penetrated at so few points, it remains still uncertain whether there may not be within it something better than its gloomy aspect would indicate.

Nuyt's Land, discovered in 1627, by Peter Nuyts, in the ship Zeepaard, extends along nearly half of the southern coast of New Holland, and has been since surveyed in parts by Vancouver, D'Entrecasteaux, Flinders, Baudin, and King. The coast continues low and sandy, but with mountain ranges in the back-ground, similar to those which border the eastern coast. These mountains are altogether naked, composed sometimes of smooth and glittering rock. The soil consists generally of loose white sand, or of a crust of earth, which sinks under the feet, and is altogether unproductive. Yet even these arid deserts, like those of the Cape of Good Hope territory, are covered with brilliant plants and flowers, producing often the most enchanting scenes; as if nature, according to Péron, had sought to throw this veil of beauty over her deep sterility. King George's Sound, in its eastern quarter, was found by Vancouver and King to contain two harbours, receiving several small rivers, and abounding with timber. The natives are numerous, and carry on with activity their fishing by means of stone weirs, which they set up at the mouths of the creeks and rivers. A small settlement of troops and convicts was made here, by the government of New South Wales, at the close of the year 1826, under the command of Major Lockyer, the first good effect of which was to reclaim several of the runaway convicts, both from New South Wales and Van Diemen's Land, who have long led a roving life, collecting the skins of seals and other animals for ships, on Kangaroo, King's, and other islands, in Bass's Strait. King George's Sound is now within the jurisdiction of the lieutenant-governor of Western Australia.

Flinder's Land extends in a south-east direction from the boundary of Nuyt's Land for 400 or 500 miles. Baudin surveyed it also; and having, in consequence of the unjust detention by the French of Captain Flinders at the Mauritius, been the first to reach Europe, he called it Napoleon's Land; but an impartial public has now restored the name to the first discoverer. This coast has open, high, rocky banks, which do not, however, send down any thing but small rivulets. It is broken by two deep bays, called Spencer and St. Vincent; on the former of which is Port Norfolk, described by Péron as one of the finest on the face of the earth. The soil is like the bottom of the sea, covered with deep sand and sandy hills, full of the incrustations of marine animals and plants; even the water in the pools is brackish. There is an extent of thirty-five miles, at the extremity of this coast, which, having been actually first surveyed by Baudin, may, it is alleged, retain the name of Napoleon. It does not contain a haven, or a point at which it is possible to land, and facing nearly the west, is lashed by tremendous waves, collected from the whole expanse of the Pacific.

[On this part of the coast, a new colony has recently been established under the name of Southern Australia. The country included between 132° and 141° E. lon., and between the Southern ocean and 26° S. lat., having an extent of about 400,000 square miles, is set apart for this purpose, and it is provided that no lands shall become private property, except by purchase at public sale for ready money, and at a price of not less than 12*s*. an acre. The proceeds of the sales of land are to be applied to the conveying of labourers to the colony. The object of the projectors of this scheme is to prevent what they call the dispersion of the colonists over too great a surface by the high price of the land, and to furnish the colony with a proper supply of labourers by transporting such persons passage free.—AM. ED.]

Grant's Land, explored in 1800 by Lieutenant Grant, connected Flinders' or Napoleon's Land with Western Port, which Bass had reached from the opposite quarter, and thus completed the circuit of the New Holland coast. Western Port has been reached over-land from the colony, in the manner already stated, by Messrs. Hovell and Hume; and towards the close of the year 1826, a settlement was established there by the colonial government, under the maritime direction of Captain Wetherall; but it has been since abandoned in favour of the more western port of Swan River. This tract has numerous and wide bays, among which are Portland Bay, King's Bay, and Port Philip. The coast continues diversified with sand-hills, on which the waves of the ocean break with fury· and behind which, as usual, rises a rocky chain, parallel with the shore. Many parts present the same aspect of dreary nakedness as the more westerly regions. In others, a great improvement is perceptible, the environs of Capes Northumberland and Albany being covered with noble woods, which give them a most romantic appearance. The environs of Port Philip are also most beautiful and fit for yielding many valuable productions.

2. *Van Diemen's Land.*

Van Diemen's Land is an insular appendage to the southern part of New Holland, but of much smaller dimensions. It lies between 40° 42′ and 43° 43′ S. lat., and 144° 31′ and 148° 22′ E. long., and is reckoned by Freycinet to contain an area of 27,192 square miles. It presents neither the same long and sharp mountain ranges, nor the same vast plains as the mainland. In general it is composed of alternate hill and dale, and even the high downs are generally fit either for cultivation or pasturage. The chief lines both of mountain and river run from north to south through the eastern part of the colony. Table Mountain, the most elevated hill in the island, nearly overhangs the southern settlement of Hobart Town, rising to the height of 3936 feet, being covered for nine months in the year with snow, and subject to violent whirlwinds. The northern peaks, called Ben Lomond and Tasman, are also considerable; but the chain of most continuous elevation is that nearly in the centre of the island, called the Western Mountains, which extend north and south for its whole length. They possess a general height of 3500 feet; enclose several large lakes, one said to be sixty miles in circumference; and give rise to most of the principal rivers in the island. Among these is the Tamar, which, uniting the waters of the North and South Esk from the east, of the Macquarie and Lake Rivers from the south, and of the Western River from the west, forms at Launceston a navigable stream, which soon opens into the broad estuary of Port Dalrymple, on the north side of the island. The Derwent, flowing in an opposite direction, and swelled by the parallel stream of the Jordan, spreads into a noble harbour on the south-east side of the island, on which Hobart Town is situated. Two rivers on the western side enter Macquarie Harbour, but their course is yet unexplored. The harbours of Van Diemen's Land surpass those of any country in the world, not excepting even the admirable ones of New South Wales. This island was first discovered by Tasman, who surveyed its southern and part of its western shores, but not the northern and eastern, with which almost exclusively we are acquainted. It was afterwards observed in parts by Marion, Furneaux, Cook, and particularly D'Entrecasteaux, who traced the remarkable channel which bears his name. All this time, however, it was believed to be a part of the continent; nor was it till Bass, in 1798, passed through the straits which are called after him, that its insular character was established. In 1803, Captain Bowen founded the first convict establishment at Risdon Cove, on the left bank of the Derwent, which was removed, in 1804, by Colonel Collins, to Hobart Town, on the right bank, in Sullivan Cove, about twelve miles up the river. Since that time the colony has been in a state of rapid increase, particularly during the last ten or twelve years, when it became the favourite resort of voluntary emigration. The climate of Van Diemen's Land belongs decidedly to the temperate zone, and is therefore more cool and more congenial to a British constitution than that of the original colony. It has not the same extremes of barrenness and fertility; there are some rich flats along the rivers, but in general the lands are somewhat high, and of a medium aptitude both for agriculture and pasturage. A greater proportion of it is quite clear of wood, and admits of the plough being applied without any previous preparation. On the road from Hobart Town to Port Dalrymple, there is a plain extending in one direction for twenty miles, and clear land is frequent on the north side of the island. Maize, tobacco, and much more sugar, are not compatible with the climate: but wheat, barley, and oats are produced of superior quality; the potatoes are equal to any on the globe, and will keep through the whole year. The cattle are rather good; the sheep produce fine wool, though not quite equal to that of New South Wales; but this has, perhaps, been from want of care, and great efforts are making for its improvement. This land wants the cedar and rose-wood of the great continent; but the blackwood, the Huon pine, and Adventure Bay pine, are valuable trees peculiar to it. The natives of Van Diemen's Land (*fig.* 910. and 911.) are guessed by Hassel at only 1500, and are, if possible, in a lower state than even those of the great continent. They are strangers to fishing, and to the construction of even the rudest canoes, but convey themselves in miserable rafts over any water they are obliged to cross. They are unacquainted with the throwing-stick; their spears are

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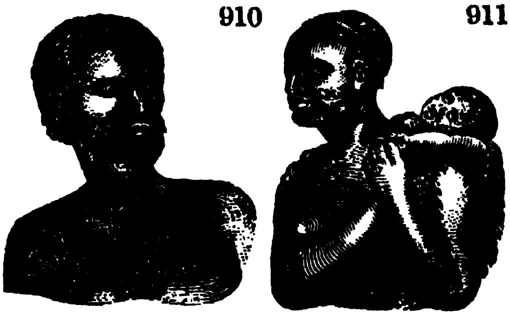
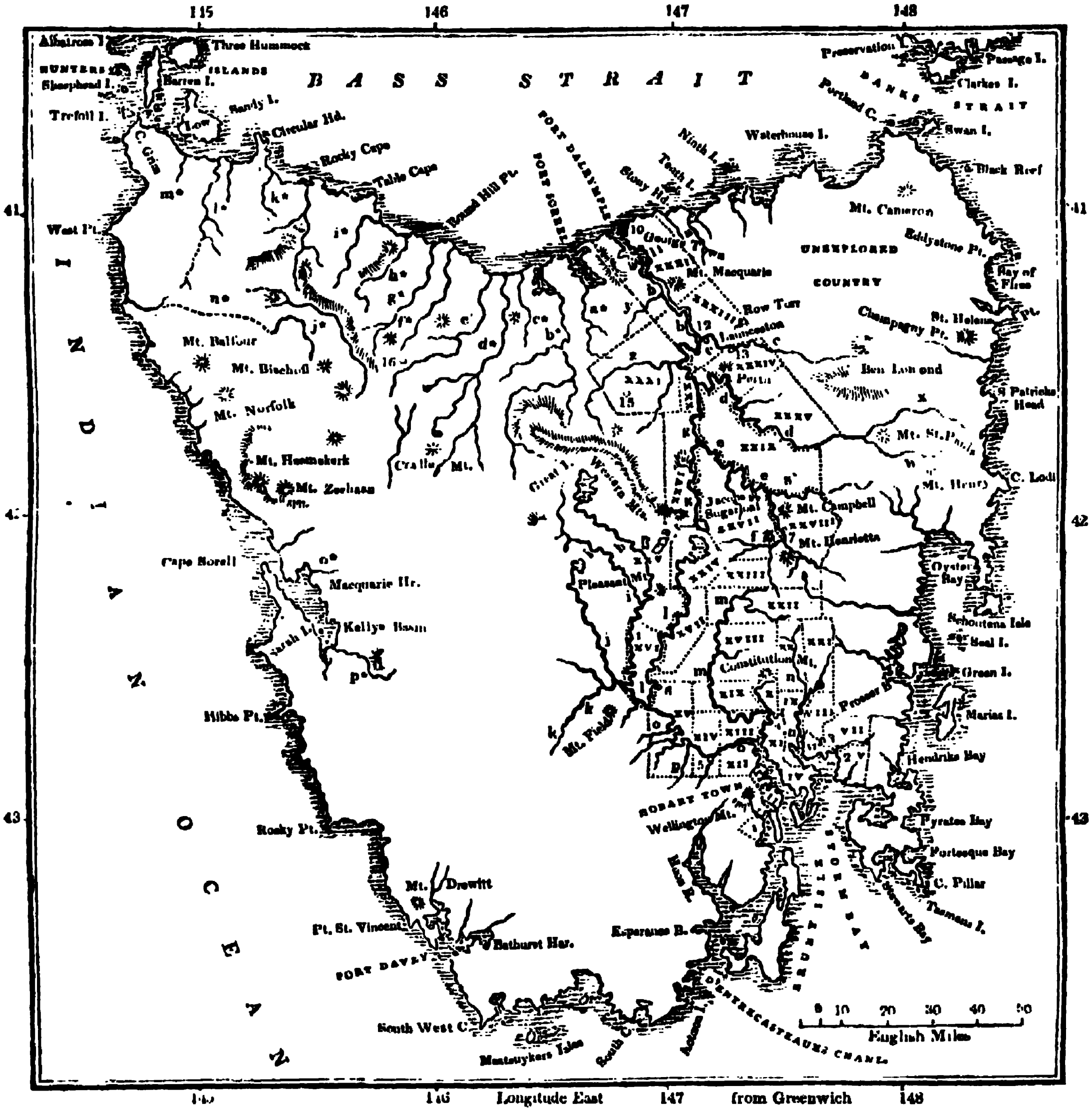


Natives of Van Diemen's Land



References to the Map of Van Diemen's Land.

Counties.
I. Kingborough
II. Queenborough
III. Argyle
IV. Clarence Plain
V. Sussex
VI. Harrington
VII. Caledster
VIII. Caledon
IX. Ulva
X. Jarvis
XI. Drummond
XII. Glenorchy
XIII. Melville
XIV New Norfolk
XV. Macquarie
XVI. Sorell
XVII. Murray
XVIII. Green Ponds
XIX. Strangford
XX. Ormaig
XXI. Staffa
XXII. Bath
XXIII. Methven
XXIV. Beaumont
XXV. Amherst
XXVI. Lake River
XXVII. Lennox
XXVIII. Richmond
XXIX. Bathurst
XXX. Norfolk Plain
XXXI. Western River
XXXII. George Town
XXXIII. Launceston
XXXIV. North Esk
XXXV. South Esk.

Towns.
1. Hobart Town
2. Sorell
3. Orielton
4. Brighton
5. Elizabeth Town
6. Macquarie's Town
7. Ross
8. Campbell Town
9. York Town
10. Signal Staff
11. George Town
12. Launceston
13. Corrilin
14. Perth
15. Westbury
16. Burghley.

Rivers.
a Piper's
b Tamar
c North Esk
d South Esk
e Macquarie
f Blackman'
g Lake
h Shannon
i Ouse
j Dee
k Broad
l Clyde
m Jordan
n Coal
o Derwent
p Plenty
q Mount
w St. Paul's
x Breakaday
y Supply
z Western
a* Avon
b* Mersey
c* Don
e* Leven
f* Blythe
g* Emu
h* Cam
i* Inglis
j* Hollyer
k* Black
m* Montague
n* Arthur
o* King
p* Gordon.

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much less formidable, and their disposition more peaceable; but, unfortunately, they have been inflamed with the most deadly hatred against the English. This deplorable circumstance appears to have been solely owing to the rashness of an officer, who, at an early period of the settlement, fired upon a party approaching, as there was afterwards reason to believe, with the most peaceable intentions. This incident appears to have made a permanent impression upon the minds of these savages; for, ever since that time, they have seized every opportunity of attacking and killing the colonists; but the smallness of their numbers and courage has rendered their enmity far from terrible. The British population is considered to form the most completely English colony that exists; yet the state of society is said, on the whole, to be ruder than that at Port Jackson. In particular, the most desperate convicts having been sent thither as a place of ulterior banishment, numbers escaped, and formed a body of bush-rangers, who kept the colony in a state of perpetual alarm, and have only been very recently put down. There are six clergymen of the church of England; also, at Hobart Town, a Catholic priest, a Presbyterian minister, and five Wesleyan Methodist ministers, in different parts of the island. Government supports a male and female orphan school, and seven public day-schools. The exports consist of wool, wheat, salted beef, mutton hams and tongues; with some hides, tallow, seal skins, whale oil, and spars. Several newspapers are published at Hobart Town and Launceston.

The present division of this settlement is into thirty-five counties.

Hobart Town possesses a harbour, perhaps the finest in the world. The Derwent, for three miles above the town, is navigable for the largest vessels. Here the river begins to freshen, and continues hence for the distance of 20 miles, narrowing gradually, but affording a safe passage for vessels of fifty tons as far as New Norfolk, where a ridge of rocks forms a rapid, and abruptly terminates the navigation. The entrance by Storm Bay is somewhat exposed; but D'Entrecasteaux's Channel affords a continued harbour thirty-seven miles long, and sheltered from every wind. The town is delightfully situated upon two hills, between which there runs a fine stream of water from the heights of Table Mountain, which towers above it. The place, having been from the first laid out upon a plan, is much more regularly built than Sydney, has good substantial houses of two stories high, with some handsome public buildings, among which are a brick church with an organ, a good gaol, and a large substantial quay. The town census of 1821 gave 2700, and the number has now increased to nearly 13,000. All the other places in this section of the country, namely, Elizabeth Town, or New Norfolk, Sorell Town, Ross, Macquarie Town, and Brighton, are mere villages of about a hundred houses.

Launcestown, the chief seat of the settlements in the northern part of the island, is situated forty miles up the Tamar, at its confluence with two small streams, called the North and South Esk. It is agreeably situated upon a hill bordering on a fertile country, and is about 120 miles across the island from Hobart Town. The Tamar, from Launceston to the sea, forms a species of estuary, which admits vessels of 300 tons; but is so obstructed by banks and shallows as to render the navigation very difficult. With this view, the seat of government was removed, in 1819, to George Town, at the mouth of the river, in the fine harbour of Port Dalrymple. This arrangement was not sanctioned by the settlers, who found the environs of George Town much less fertile and agreeable, and also more distant from the seat of culture, than Launceston, which now contains about 3000 inhabitants. Norfolk Plains, consisting of sixty-two houses, Perth, Campbell Town, and other agreeable neighbourhoods, are rising in the interior; but the settlements are, on the whole, much less extensive than in the south, though there remains here a great extent of fine unoccupied land.

The circuit of the coasts presents various features, and is not, on the whole, so forbidding as that of the adjoining continent. The eastern coast, for the northern half of its extent, is little indented, and presents generally sand-hills; but in the middle, between St. Patrick's Head and St. Helen's Point, exhibits a range of abrupt unapproachable rocks, with lofty and broken mountains behind. This coast terminates with the long steep Isle of Schouten, separated from the continent by a narrow strait. The south-east coast thence continues to present a series of long islands and winding peninsulas, enclosing deep and commodious havens. It begins with the large inlets, called by the English Great Swan Port, by the French, Fleurieu Bay: south from which, the Island of Maria presents a formidable aspect, surrounded on all sides by perpendicular granite cliffs from 300 to 400 feet high, and filled with many caverns, into which the waves rush and make a roaring like the sound of distant thunder. The mariner passes with trembling, as he views the fury of the tempests which dash against it. Then begins the peninsula of Tasman, of great extent, winding and indented, connected with the continent by a narrow isthmus of a few hundred feet, and branching into several minor peninsulas, as slightly connected with each other. This was supposed to be an island, till Baudin ascertained its precise form. South-west from this is the long and irregular form of Pitt Island, called by the French Bruny: running parallel with the continent, it forms the long channel called, from its discoverer, D'Entrecasteaux, the waters of which are full of fish, and its shores covered with the most beautiful vegetation. Farther on, the Bay de la Recherche forms two good harbours, and the coast soon terminates in South Cape, the extreme point of the island. The western coast, including the north and south-western, is generally high and steep, with considerable mountains rising behind. Here are two important openings; Macquarie Harbour, with a narrow entrance, spreads into a very wide and deep basin, receiving, after eight miles, two rivers, called Gordon's, the course of which has been only partially explored. The country, however, is promising, having coal and fine timber; and a penal settlement has already been formed there—the precursor, probably, of one on a more desirable footing. Port Davey, more to the southward, with a wider entrance, but less interior extent, spreads into two harbours, of which that of Bathurst is good and secure; but the country is rocky and barren, and the timber difficult of access. On the north-west corner is Hunter's group, the chief of which are Barren Island, the three Hummocks, and Low Sandy Island, which answer to their unpromising names. Still farther north-westward from these is King's Island, large, humid, bleak, with great variety of rocks, full of streams, and with a lake in the centre. There are several other islands in Bass's Straits,—Furneaux's, Clark's, Cape Barren,—of tolerable size, but of no beauty or promise.

3. *New Zealand.*

New Zealand ranks next to the countries now described, as the most important of the great southern insular masses. It ranges parallel to the south of New Holland, with a broad intervening expanse of ocean. It consists of two islands, but separated only by a strait, and composing properly only one country, lying between 34° and 48° S. lat.; being thus about 1000 miles in length; but the average breadth does not exceed 100 miles. The surface is estimated by Mr. Nicholas at 62,160 English square miles. The northern island is known by the name, not very well fitted for English organs, of Eaheinomauwe; the southern by that of T'avai Poenammoo. The first is the smallest, but is distinguished by the finest soil, and by natural features of the boldest and grandest description. Chains of high mountains run through both islands, which, in the former, rise to the height of 12,000 or 14,000 feet, and are buried for two-thirds of their height in perpetual snow; presenting on the greatest scale all the alpine phenomena. From these heights numerous streams flow down, watering in their course the most fertile and enchanting valleys. The huge glaciers and plains of snow which cover their higher regions; the mighty torrents which pour down from them, forming stupendous cataracts; the lofty woods which crown their middle regions; the hills which wind along their feet, decked with the brightest vegetation; the bold cliffs and promontories which breast the might of the southern waves; the beautiful bays decked with numberless villages and canoes—all conspire to present a scene, which even the rude eye of the navigator cannot behold without rapture. The soil in the valleys, and in the tracts of land at all level, is more fertile than in New Holland, and, with due cultivation, would yield grain in abundance. It produces, even spontaneously and plentifully, roots fitted for human food, particularly those of a species of fern, which covers almost the whole country. The natives breed pigs, and cultivate some maize, yams, and potatoes; and there is a species of very strong flax, which serves not only for clothing, but fishing-lines, and various other purposes. The mountains are clothed with a profusion of fir trees, of a variety of species unknown in other countries, and rising to a magnificent height, which the tallest pines of Norway cannot rival. The natives (*fig.* 913.) are of a different race from those of New Holland, belonging rather to that Malay race which predominates in the South Sea Islands. They are tall and well formed, with large black eyes; they are intelligent, have made some progress in the arts of life, and are united into a certain form of political society. These circumstances, however, have only tended to develope in a still more frightful degree those furious passions which agitate the breast of the savage. Each little society is actuated by the deepest enmity against all their neighbours; their daily and nightly thought is to surprise, to attack, to exterminate them; and when they have gained that guilty triumph, it is followed by the dire consummation of devouring their victims. Such was the catastrophe which, in 1809, upon the jealous pride of one of the chiefs, befell the entire crew of the ship Boyd, only two or three children being saved, and afterwards recovered by Mr. Berry. Yet to the members of their own tribe, or those whom they regard as friends, they are not only mild and courteous, but display the fondest attachment and most tender sensibility. Families live together in great harmony, and are seen assembled in pleasing and harmonious groups (*fig.* 914.). On the death of their relations, they exhibit the most impassioned and affecting symptoms of grief, cutting their faces with pieces of shell or bone, till the blood flows and mixes with their tears. Several even of the females, who had formed an irregular connexion with the sailors, showed them every mark of faithful and tender attachment. They have a great turn for oratory, the chiefs making speeches of two or three hours accompanied with vehement gestures, to which those

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Man and Woman of New Zealand.

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New Zealand Family

of the audience correspond; but we have yet no translated specimens of New Zealand eloquence. Their war-canoes are very large, adorned with much curious and elaborate carving. Great diligence is also exercised, and great pain endured, in bestowing upon their skins the unnatural ornament of tattooing (*fig.* 915.); and the visages of the chiefs are often entirely covered over with various regular figures. This, however, is not effected without severe pain, causing even attacks of fever; but to shrink in any degree from the operation is considered as altogether derogatory to a manly spirit. They have also a horrid art, by which the heads of their enemies, being dried in an oven, and exposed to a stream of fresh air, are maintained in a state of perfect preservation. Their houses are by no means spacious; that of Korra-korra, a powerful chief, measured only nine feet long, six feet wide, and four feet high. They are placed in hippahs (*fig.* 916.) or fortified villages, seated on high and steep hills, ascended by pathways, narrow, winding, and often perpendicular, so as to be most perilous to an European; but the New Zealander leaps up as if it were level ground. Their original arms consisted of clubs of stone and whalebone, of long and pointed spears, and of the pattoo-pattoo, or wooden battle-axe; but since the musket has been introduced to their knowledge, it has absorbed all their warlike regard; and the strength of a chief is counted, not by his men, but by his muskets. The report of fifty being in the possession of Korra-korra spread the terror of his name for 200 miles round. The New Zealander has no idea of the pitched combats in the open field, which give a sort of chivalric character to the New Holland fighting; his baser aim is to steal upon his enemy, and massacre him, unprepared and defenceless. This, however, is common in savage life among such small political associations, where the object is not personal glory, but to gratify the passions and promote the interests of the tribe. There seems also to be something like political alliance among them; and Colonel Cruise understood that upwards of 3000 were once assembled on a single plain for the purposes of deliberation. The entire population is estimated by Mr. Nicholas at upwards of 150,000. Several missionaries, animated by a noble spirit of philanthropy, have ventured to take up their abode among these ferocious hordes. They have not yet made much impression on their habits of barbarism, but they are viewed as friends, treated with kindness, and enter into their houses and fortified villages, without feeling the slightest apprehension.

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New Zealand Chief.

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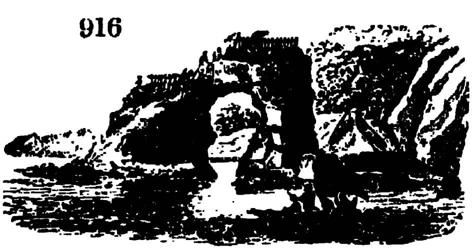


Fortified Village in New Zealand.

The following recent information concerning New Zealand comes from original documents in the Colonial Office, and is extracted from the 2d vol. of the Royal Geographical Journal:—"In New Zealand, flax may be obtained in an unlimited quantity, and there is abundance of fine timber of all sizes and dimensions for ship-building and other purposes. Thousands of tons of shipping may be employed in the flax trade alone; and the timber, which grows occasionally to a great height, and not unfrequently six feet in diameter, may be procured in any quantity. The country is rich in mineral and vegetable productions; the soil fertile and easy of culture. With regard to the whaling establishments in New Zealand, it may be observed, that, as they are of use only for about four months in the year, they are not likely to become permanent, unless combined with some other pursuit for the summer season. And, from the destructive nature of the fishery (the females being killed at the time of calving), the trade cannot last many years; but, like the sealing, will eventually fail from extermination, or from the desertion of the land by the harassed animals. The fishery is confined to the Middle and Stewart's Islands, the whales not being found north of Cook's Straits. In the four church mission stations of Rangiliona, Renken, Paihia, and Waimate, there are, under a regular course of education, about 320 New Zealanders, whose average age is sixteen years. When the hours appointed for instruction in reading, writing, and accounts are expired, the greater number of these natives are employed in the mission, some in building, others as carpenters, and others in general labour. There are three substantial chapels, capable of holding from 200 to 300 each, in which services are held three times every Sunday, and always well attended.

All travellers agree that the New Zealanders are a noble race of savages, although they are clearly proved, by the long residences among them of Colonel Cruise and Mr. Earle, to be still cannibals. "If," says Mr. Gibbon, in speaking of the Attacotti, a Caledonian nation of the fourth century,—"if, in the neighbourhood of the commercial and literary town of Glasgow, a race of cannibals has really existed, we may contemplate in the Scottish history the opposite extremes of savage and civilised life. Such reflections tend to enlarge the circle of our ideas, and to encourage the pleasing hope that New Zealand may produce, in some future age, the Hume of the southern hemisphere." Recent voyagers differ in their opinions as to the benefit which these islands, in common with the rest of those of the South Seas, derive from the various religious missionaries who are stationed upon them. Captains Beechey and Kotzebue, and Mr. Earle, accuse these persons of teaching nothing but asceticism; and the last attributes the progress of the natives of New Zealand in civilisation to the whalers who touch there. When we consider the nature of the education which this class of mariners receives, Mr. Earle's really seems to be a bold opinion. The interesting works of Mr. Nicholas, Colonel Cruise, Messrs. Tyerman and Bennet, and Mr. Stewart, present a different and (we should think) a truer picture of the labours of these isolated and pious men. We think the missionaries right in indulging the passion of the New Zealanders for English clothing, and in not waiting till they can master all the difficulties and subtleties of the English, but in at once translating the Gospels into the great Polynesian languages, and in teaching their children to read those translations. To translate a work into the language of the learner, is to explain it at the same time. To teach the learner the language in which a work is written, often leaves the meaning of the work to be still translated to a foreigner. True it is that, till their European costume shall become complete (and perhaps even then), they will look more noble in their mat-cloaks: but no barbarous country was ever civilised till the people had adopted the costume of their conquerors; and the expensive and complicated dress of refinement and fashion is the taste that will lead the savage to industry and the arts of peace—not the head-dress of plastered hair, and the garment made from the cloth-tree. We are happy to learn, from Mr. Earle's book, that the more general introduction of muskets and gunpowder is found to diminish intestine war. The savage sees that the bullet sets at nought strength and supersedes courage. Their armies, therefore, number muskets before they encounter; and, if they find these to be equally matched, they settle the dispute amicably. This is great ground gained; and the cultivation of the soil, the breeding of cattle, infant education, European clothing, are, under the direction of the missionaries, and their generous subscribers in England and in the United States, fast following. Thus it is that New Zealand will, in time, leave off the practices of war and cannibalism, and become, what we understand Otaheite and Owhyhee actually to be, a civilised and Christianised country.

4. *Papua, or New Guinea.*

New Guinea is the largest mass of southern continent next to New Holland, being from 1200 to 1400 miles in length, and varying from 150 to 200 miles in breadth. There seems great reason to surmise that it is one of the finest countries in existence. The few navigators who have sailed along its coast observed ranges of mountains swelling behind each other, their summits rising in the most picturesque and varied forms, and clothed with immense pine forests. The Dutch maps represent some of those on the west coast as covered with perpetual snow, which would imply, in this latitude, a height of 15,000 or 16,000 feet. The copious moisture which must flow down from these heights, in a climate so intensely tropical, can scarcely fail to generate a most rich vegetation, while the close contiguity and similar climate of the Spice Islands, afford a presumption, that their valued products may find here a congenial soil. Yet this tempting region has been left almost a terra incognita, having been generally viewed only from a distance by navigators, except Forrest, who landed at several points of its northern coast. Some recent observations have also been made by the French navigators Duperrey and Lesson. The population, like that of New Holland, was found to consist of Papuans, or Oriental negroes, mingled with the still ruder race of the Haraforas, who inhabit the interior mountains. These Papuans appear to be a degree farther advanced in the social scale than the New Hollanders. This is shown in the very singular construction of their huts, raised on elevated planks or stages, resting upon poles that are fixed usually in the water. This scheme is supposed by Forrest to be adopted with a view to security from the attacks of enemies, and particularly of the Haraforas. These houses, which are divided among a number of families, have a door both towards land and sea, so that, according to the quarter whence danger comes, they may betake themselves either to their vessels or to the woods. They construct and ornament their canoes on a large scale, and show considerable skill in fishing. They not only wage deadly war against each other, but manifest a particular jealousy and hostility towards strangers, which may be owing, in a great degree, to what they suffer from the inhabitants of Borneo and Celebes, who make frequent inroads, and carry them off as slaves. These vessels also carry away trepang, edible birds'-nests, and tortoise-shell. The Dutch, in 1828, formed a settlement in Triton Bay, in lat. 3° 33′.

The Louisiade is the name given by Bougainville to a range of broken shores which he passed at the western extremity of New Guinea. He ranked them as an archipelago; but it seems doubtful whether they do not all form part of one large peninsula, and even whether that peninsula be not part of New Guinea. The aspect of both appears to be nearly the same, except that the natives seem to be still ruder.

5. *New Britain and New Ireland.*

A series of large groups of islands, beginning near the north-eastern boundary of New Guinea, ranges in a circuitous line parallel to New Holland, and in the direction of New Zealand, though stopping considerably short of it. Their aspect is various, but in general mountainous and often rugged, as in the other regions of Australasia; like which, also, they contain valleys, and even plains, covered with the most profuse vegetation. The inhabitants are divided between the two great races, the Papuan, or Oriental negro, little, ugly, and black; and the Malay, taller, of a dingy brown, and of more pleasing features. All the islands exhibit only varieties of the most savage form of social existence. They are little known or frequented, as the route of the circumnavigator usually leads him from the Society Islands into the sea between New Holland and New Zealand, avoiding the coral rocks scattered through the Australasian gulfs. The group of New Britain, New Ireland, New Hanover, and other smaller islands, was partially seen by Le Maire, and afterwards examined with some care by Dampier and D'Entrecasteaux. Carteret also viewed a detached and more westerly part, which he called Admiralty Islands, and which appeared better cultivated, and inhabited by a more civilised race, than the others. Some more recent observations have been made by M. Lesson and his companions. The whole group lies between the first and sixth degrees of south latitude; and, were Arrowsmith's map (which is laid down, however, upon the most conjectural data) followed, one should estimate the superficial extent at 16,000 English square miles. New Ireland is very thickly wooded, and among its trees are mentioned the Areca palm, and even the nutmeg. The natives are Papuans, but are considered by the French navigators to be the most civilised in this archipelago. They have temples, and a regular form of idolatrous worship.

6. *Solomon Islands.*

The Archipelago called Solomon Islands was, as already noticed, discovered, and that name given to them, by Mendana, in 1567. They were forgotten for two centuries, till Carteret, in 1767, and afterwards Bougainville and Lieutenant Shortland, passed several of the group, to which they gave the name of Egmont, Queen Charlotte's Islands, and New Georgia. Some retain the Spanish names of Isabel, San Christoval, &c.; while to others Bougainville gave his own and that of Choiseul. The prevailing population is Papuan, and as black as the African negro, but with a mixture of the Malays. They appeared to be numerous, subject to the sway of an absolute prince, and warlike. Both Mendana and Bougainville were led to suppose them addicted to feeding upon human flesh.

7. *New Hebrides.*

The New Hebrides are a group situated to the south-east of the above, first discovered by Quiros, in 1606, who gave it the name of the Archipelago del Espiritu Santo: Bougainville afterwards touched at these islands, to which he gave the name of the New Cyclades; while Cook, who examined them more diligently than any of his predecessors, bestowed upon them that of New Hebrides, to which we adhere; but the continental geographers maintain that the Spaniards, as the first discoverers, are entitled to have their appellation received in preference to any other. It is, in fact, still given to the principal island; while to other considerable ones Bougainville gave the name of Iles de Lepreux, and Cook those of Tanna and Mallicolo. These islands are generally covered with high mountains, from some of which flame is seen issuing. The territory, as usual in volcanic countries, is extremely fertile, and finely watered by numerous rivulets. The natives belong generally to the Papuan race; but those of Mallicolo are, even beyond its general average, diminutive, mean, and ugly; while those of Tanna (*fig.* 917.) are, on the contrary, taller and handsomer than almost any other specimen yet seen. They are both extremely active, agile, and intelligent: the Mallicolese, in particular, appeared a most determined and energetic race. They go almost naked, and have few or no arts and manufactures; but their weapons are constructed with peculiar skill; and the tribes are almost at perpetual war with each other; yet in their social intercourse they are mild and friendly. Forster reckons the population at 200,000, of which he supposes Tanna to contain 20,000, and Mallicolo 50,000.

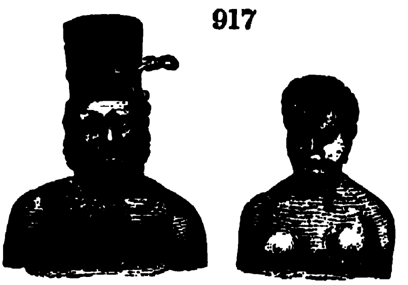
917

Natives of Tanna.

8. *New Caledonia.*

New Caledonia, a large island, 250 miles long, and 60 broad, forms the southern termination of this great chain of archipelagoes. It is traversed by a continuous range of mountains, which rear their conical heads to a considerable height, and throw out branches, which present their rocky faces towards the sea. Though water is somewhat abundant, a great part of the soil is so rocky and sandy as to be by no means fertile. Forster rates the population at 50,000; but D'Entrecasteaux does not think it can exceed half that number, as it is almost wholly confined to the coast, where a supply of fish can be obtained. The natives (*fig.* 917.) afford decided specimens of the rude and diminutive forms of the Papuan or Oriental negro. They have been painted in the most opposite colours by Cook and by D'Entrecasteaux; by the one as mild, friendly, and courteous; by the other as fierce warriors, and devourers of human flesh; but the fact is, that, in savage life, nothing is more common than the presentation of these two extremes, according to the circumstances under which the people are viewed.

917



Man and Woman of New Caledonia.

CHAPTER II.

POLYNESIA.

Polynesia, or "the many isles," is the name which geographers have now generally agreed to give to numerous groups with which a great part of the Pacific Ocean is studded. While the islands which compose Australasia are of such magnitude as to approach the character of continents, those of Polynesia are so small that most of them can scarcely aspire

References to the Map of Polynesia.

NORTH-WEST PART.

1. Harbour
2. Amsterdam
3. Kendrick's
4. Dolores
5. Pareco Vela
6. Vela
7. South
8. Sulphur
9. Alesandro, or North
10. South Bonin
11. North Bonin
12. Jardine's Islands
13. Sebastian Lobos
14. Rica d'Oro, or Gold
15. Tres Colunas
16. Oto Nameless Islands
17. Volcano
18. La Mica
19. La Mina
20. Desierta
21. Wake's
22. Gaspar Rico
23. Smyth's Islands
24. Davison's
25. Bigar
26. Udirick
27. Udai Milai
28. Paterson's Islands
29. Ailu Islands
30. Romanzoff's Islands
31. Kawen Islands
32. Otdia Islands, or Mosquito Group
33. Pedder's Islands
34. Baring's Islands
35. Nantucket
36. Banham's Islands
37. Mille, or Mulgrave Islands
38. Pitt
39. Matthew's Islands
40. Marshall's Islands
41. Gilbert's
42. Simpson's Islands
43. Bishop's
44. Kingsmill Group
45. Drummond's
46. Blancy's
47. Wood
48. Hall's
49. Cook's
50. Ocean
51. Pleasant
52. Shank's
53. Montoverdsoen
54 Hope
55. Teyoa
56. Casbobos
57. Brown's Range
58. Puao
59. Pis
60. Hogall, or Torres
61. Two Islands
62. Seven Islands
63. Koop
64. Majoor
65. Lamoel
66. Paloloo
67. Ooloot
68. Poolop
69. Tomotam
70. Poolout
71. Setconl
72. Paxaro
73. Uracoos
74. Volcano Grande, or Assumption
75. Grigan
76. Gaguan
77. Farellon
78. Anataxan, or Joachin
79. Saypan
80. Tinian
81. Zerpane, or Rota
82. Guahan, or St. John
83. Santa Rosa
84. Fahuen
85. Farrowlip
86. Olimarau
87. Fallao
88. Cota
89. Low
90. Ifeluc
91. Uloe
92. Aurapig
93. Thirteen Islands
94. Eurupuc, or Cuntava
95. Teis
96. Egoi Islands
97. Yap, Eap, or Unaub
98. Philip Islands
99. Matelotes
100. Three Islands
101. Bab-el-thu-up
102. St. Andrew's Islands
103. Lord North's
104. Pula Anne.

NORTH-EAST PART.

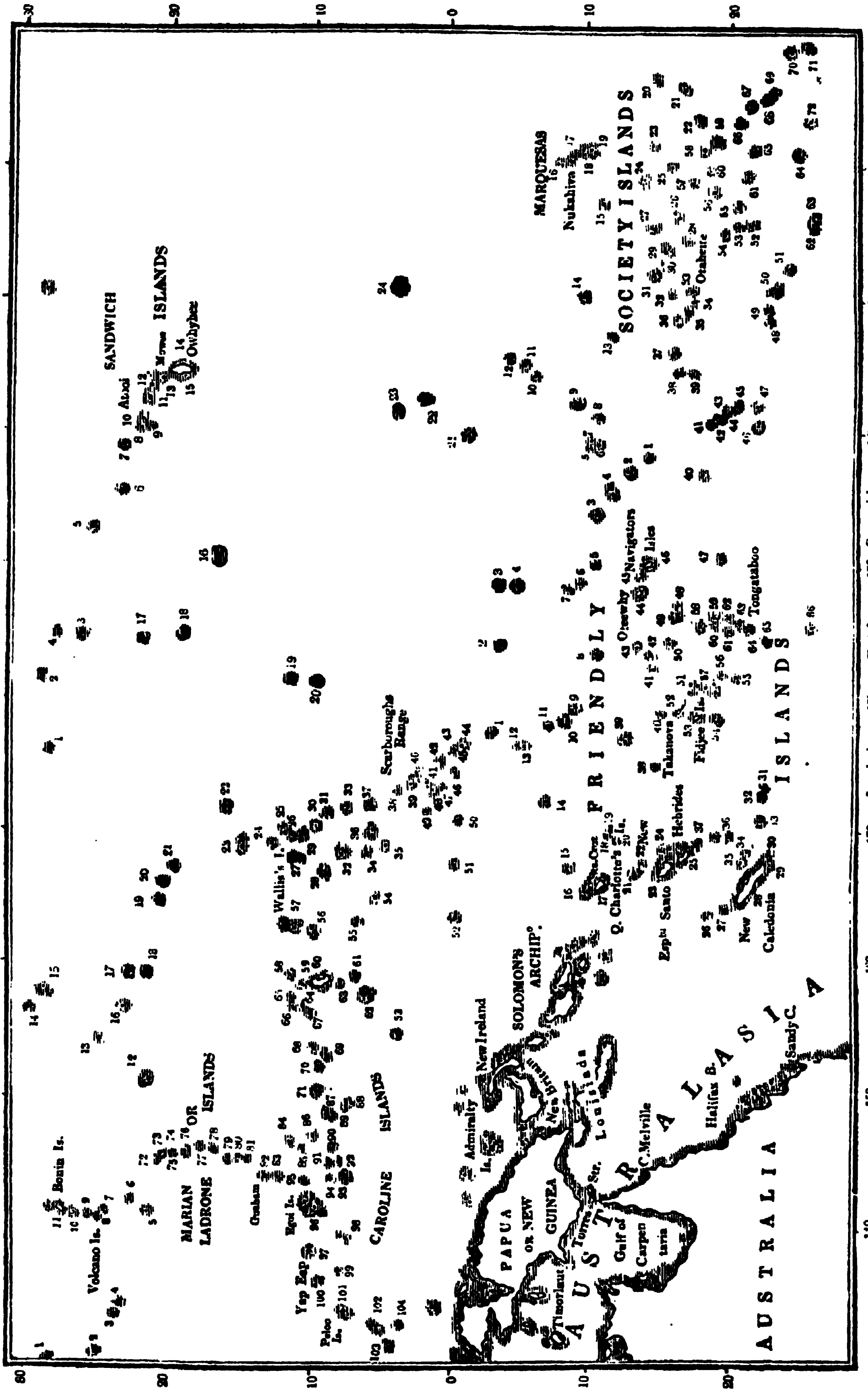
1. Patrocinio
2. Massashafsets
3. Lysiansky's Sand
4. Clerk's Islands
5. Gardener's
6. Necker
7. Bird's
8. Oneehow
9. Tehoora
10. Atooi
11. Woahoo
12. Morotoi
13. Mowee
14. Owhyhee
15. Kurakahooa Bay, Capt. Cook killed, 1779
16. Johnson's Islands
17. Krusenstern's Rock
18. Clodius
19. S. Pedro
20. Barbadoes
21. Brown, or Jarvis
22. Christmas
23. Palmyras
24. Low Islands.

SOUTH-WEST PART.

1. Hope, or Hurd
2. Arthur's
3. Birnie's
4. Sydney
5. Island of Handsome People
6. Duke of Clarence
7. Duke of York's
8. Solitary
9. Ellice's Group
10. De Peyster's Group
11. Nederlandisch
12. El Grand Cocal
13. Taswell, or St. Augustine
14. Jesus
15. Mattooetec, or Kennedy
16. Duff's Group
17. Santa Cruz, or Egmont
18. Cherry
19. Mitre
20. Jucopia
21. Torres' Islands
22. Banks's
23. Espiritu Santo
24. Aurora
25. Mallicolo
26. Surprise
27. Lebort
28. New Caledonia
29. Botany
30. Island of Pines
31. Hunter's
32. Matthew's
33. Walpole's
34. Loyalty Islands
35. Britannia Island
36. Tanna
37. Erromango
38. Hunter's
39. Rotumah, or Grenville's Islands
40. Farewell
41. Horne
42. Enfant Perdu
43. Wallis's
44. Oteewhy
45. Oyolava
46. Tootooillah
47. Savage
48. Consolation Islands
49. Cocos Islands
50. Oonavoo
51. Middleton Islands
52. Takanova
53. Amboo
54. Meywolla
55. Ona
56. Turtle
57. Unga
58. Amurgura
59. Mayorga
60. Late
61. Toofoa
62. Hapace Islands
63. Fallafugeca
64. Tongataboo
65. Pylstaarts, or La Sola
66. Vasquez.

SOUTH-EAST PART.

1. Rose
2. Suwaroff's Islands
3. Islands of Danger
4. Otter Islands
5. Oao
6. Humphrey
7. Reason
8. Peregrine Islands
9. Penrhyn Islands
10. Starbeck
11. Volunteer
12. Malden
13. Flint's
14. Caroline
15. Tiburon
16. Nukahiwa
17. Oheevahoo
18. Oheetahoo
19. Madalena
20. Dog
21. St. Pablo
22. Minerva
23. Hinden Eylandt Islands
24. Disappointment Islands
25. Predpriœlige
26. Furneaux Islands
27. Tiokea
28. Bhain
29. Paliser's Islands
30. Dean's
31. Krusenstern's Islands
32. Recreation
33. Otaheite
34. Saunders'
35. Ulietea
36. Tuleai
37. Billinghausen
38. Scilly Islands
39. Mapeelia
40. Palmerston
41. Whylootah
42. Harvey's Islands
43. Otakootai
44. Watecho
45. Mohoowara
46. Roxburgh
47. Mangeea
48. Remitaru
49. Oheteroa
50. Toobonai
51. High
52. St. Elmo
53. Gloucester
54. Preservation of St. Pablo
55. Margaret's Islands
56. Prince Henry's Island
57. Resolution
58. Thrum Cap
59. Whitsunday
60. Gloucester
61. Bligh's Lagoon
62. Opari
63. Four Crowns of Quiros
64. S. Juan Baptista
65. Wilson
66. Carysfort
67. Lord Hood's
68. Gambier's
69. Crescent
70. Low
71. Pitcairn's
72. Incarnation.


SANDWICH ISLANDS
Atooi
Mowee
Owhyhee
MARQUESAS
Nukahiva
SOCIETY ISLANDS
Otaheite
FRIENDLY ISLANDS
Navigators Isles
Otewhy
Tongataboo
Fidjee Is.
Takanova
New Hebrides
Santo
Espiritu
New Caledonia
Q. Charlotte's Is.
Sta. Cruz
Scarborough Range
Wallis's I.
MARIAN OR LADRONE ISLANDS
CAROLINE ISLANDS
Bonin Is.
Volcano Is.
Graham
Egoi Is.
Yap
Peleo Is.
SOLOMON'S ARCHIP.
New Ireland
New Britain
Admiralty Is.
Louisiade
PAPUA OR NEW GUINEA
Timorlaut
Torres Str.
Gulf of Carpentaria
C. Melville
Halifax B.
Sandy C.
AUSTRALASIA
AUSTRALIA
Longitude East from Greenwich
130
140
150
160
170
180
0
10
20
30

above the diminutive appellation of islets. Yet they are so numerous, and follow in such close succession, that they may properly be considered as a region of the globe bearing a peculiar aspect and character.

Sect. I.—*General Outline and Aspect.*

The Pacific Ocean, over which these numerous islands are scattered, is a vast expanse, extending, in its greatest breadth, 150 degrees, or nearly one-half of the globe. It is by no means, however, completely filled with the groups of Polynesia. From the shores of Asia and Australasia, indeed, in an east and south-east direction, they closely follow each other to about 130° W. long., or for the space of nearly 100° of longitude. From north to south they range between the tropics of Cancer and Capricorn nearly 50 degrees of latitude. Beyond these limits, northward to the Aleutian Islands, eastward to the continent of America, and southward to the Antarctic Ocean, scarcely a rock rises to interrupt the unbroken waste of the Pacific.

These islands rank with the most fruitful and smiling regions on the surface of the globe. Their situation, altogether between the tropics, and beaten by the rays of an equatorial sun, might have given them a parched soil and a burning and pestilential climate. These evils are averted by the moisture and breezes from such an extent of surrounding ocean, and by the interior mountains, which rise, in many instances, to a very lofty height. Several of the Polynesian peaks approach the elevation of those in the great continents. In the Sandwich Islands, Mouna Roa is about 16,000 feet, Mouna Koah about 15,000 feet above the level of the sea. In Otaheite, Oroeno rises to 10,800, and Tobronu to 9500 feet. Most of the other islands have mountains inferior, but considerable. An exception is, indeed, formed by the coral islands, those peculiar structures raised from the bottom of the sea by the incessant labour of myriads of insects. As the formation ceases as soon as it reaches the surface of the ocean, these islands are merely a few feet above its level, and are visible to the navigator only by the trees which rise from their flat surface. The higher islands are indented by deep bays, and finely variegated by streams descending from the mountains; but their extent does not admit the formation of rivers or lakes of any importance.

Sect. II.—*Natural Geography.*

Subsect. 1.—*Geology.*

Easter Island. 2000 miles from the coast of Chili, and 1500 from the nearest inhabited islands, Pitcairn Island excepted, which has been peopled by Europeans, is of igneous origin, and said by navigators to be studded with volcanoes.

Ducie's Island is of coral formation; of an oval form, with a lagoon or lake in the centre, which is partly enclosed by trees, and partly by low coral flats scarcely above the water's edge. The height of the soil upon the island is about twelve feet, above which trees rise fourteen feet more, making its greatest elevation about twenty-six feet above the sea level.

Elizabeth or Henderson Island. "We found that this island," says Captain King, "differed essentially from all others in its vicinity, and belonged to a peculiar formation, very few instances of which are in existence. Watoo and Savage Islands, discovered by Captain Cook, are of this number, and perhaps, also, Malden Island, visited by Lord Byron. The island is five miles in length, and one in breadth, and has a flat surface nearly eighty feet above the sea. On all sides except the north it is bounded by perpendicular cliffs, about fifty feet high, composed entirely of *dead coral*, more or less porous, honeycombed at the surface, and hardening into a compact calcareous substance within, possessing the fracture of secondary limestone, and with a species of millepore interspersed through it. The dead coral, of which the higher part of the island is composed, is nearly circumscribed by ledges of living coral, which project beyond each other at different depths; on the northern side of the island the first of these had an easy slope from the beach to a distance of about fifty yards, when it terminated abruptly about three fathoms under water. The next ledge had a greater descent, and extended to two hundred yards from the beach, with twenty-five fathoms over it, and there ended as abruptly as the former, a short distance beyond which no bottom could be gained with two hundred fathoms of line." This island appears to have been raised above the sea through Plutonian agency.

Gambier's Islands. This group consists of five large islands and several small ones, all situated in a lagoon formed by a reef of coral. The largest of these is about six miles in length, and rises into two peaks, elevated 1248 feet above the sea. All the islands are steep and rugged, particularly Marsh Island, which at a distance resembles a ship. The external form of these islands at once conveys an impression of their volcanic origin, and on examination they all appeared to be composed of rocks formed through igneous agency. The rocks are vesicular basaltic lava and tufa; in which various zeolites, calcedonies, jaspers, and calcareous spars occur. These rocks are traversed by veins or dikes, ranging from east to west, of a compact volcanic rock abounding in olivine. Forming a striking contrast to those rugged and lofty igneous rocks, is a series of low islands, owing their construction to myriads of minute zoophytes, endowed with a power which enables them to secrete calcareous matter in such quantity as to rear the magnificent structure many leagues in circumference. A great wall of this kind already surrounds the islands, and by the continued labour of these submarine animals is fast approaching the surface of the water in all its parts. On the north-east side it already bears a fertile soil, and beyond the reach of the sea sustains trees, and affords even a habitation to man. In the opposite direction it dips from thirty to forty feet beneath the surface, as if purposely to afford access to shipping to the lagoon within. "All the islands," continues Captain King, "we subsequently visited were similar to these, in having their western or eastern side more advanced than the opposite one. The outer side of the wall springs from unfathomable depths; the inner descends with a slope to about 120 or 150 feet below the surface. This abruptness causes the sea to break and expend its fury upon the reef, without disturbing the waters in the lagoon. The coral animals consequently rear their delicate structure there without apprehension of violence, and form their submarine grottoes in all the varied shapes which fancy can imagine. They have already encircled each of these islands with a barrier, which they are daily extending, and have reared knolls so closely as almost to occupy all the northern part of the lagoon. More independent bodies are in other parts bringing to the surface numerous isolated columns, tending to the same end; and all seems to be going on with such activity, that a speculative imagination might picture to itself, at no very remote period, one vast plain covering the whole of the lagoon, yielding forests of bread fruit, cocoa-nuts, and other trees, and ultimately sustenance to a numerous population and a variety of animals subservient to their use."

Coral Islands. Lord Hook Island, Clermont-Tonnerre, Serle Island, Whitsunday Island, Queen Charlotte Island, Lagoon Island, Thoum Cap Island, Egmont Island, Barrow Island, Carysfort Island, Osnaburg Island, Byam Martin Island, Gloucester Island, Bow Island, are throughout of coral formation; and Captain King adds, "the islands which were visited between Bow Island and Otaheite were all of the same character of formation as those just enumerated: one of these he named Melville, another Croker Island. The coral islands of this group are thirty-two in number; the largest of them thirty miles in diameter, and the smallest less than one mile."

Otaheite. This island appears like one lofty mountain, intersected with deep green valleys, bounded by dark rocks, and terminating above in a double summit, Oroena and Pitohiti, the most elevated of which is said to be 10,000 feet above the level of the sea. The rocks are of an igneous origin, and principally common and amygdalous basalt. The amygdaloidal basalt affords apophylite, needlestone, chabasite, and analcime, and the common basalt embedded augite, hornblende, and large masses of granular olivine. Hoffman, who accompanied Kotzebue, observed, besides the minerals just mentioned, in some cavities siliceous stalactites in the process of formation; and the same naturalist found rocks of clinkstone, with embedded crystal of glassy felspar, some varieties of which much resembled trachyte. He also met with large masses of syenite in different parts of the island, but did not succeed in detecting this rock in situ. The islands of Huaheine, Otaha, Ulietea, Borabora, and Maura, are of the same general nature as the Marquesas: hence they may be considered basaltic islands, with volcanic craters of eruption.

Marquesas. The highest of this group, the island of Dominica (Ohiwaua), may, in Von Buch's opinion, prove to be a trachytic principal volcano, with a crater. The other isles appear to belong to the basaltic class. In these islands the sea extends to the base of the mountains, there being no protecting coral reefs, as is the case in most of those in the Pacific.

The Friendly Islands are generally low, few of them attaining a height of some hundred feet; but the small volcano, Tofua, rises to a greater height, probably 3000 feet. It appears in a state of constant activity; for every time it has been visited symptoms of agitation have been observed. As stated by Buch, a great stream of lava, flowing from the base of the mountain to the sea, produced frightful ravages; and Captain Edwards, in the Pandora, found the volcano in full activity. From the pumice which covers the coast of Tongataboo and Anamoka, it would seem that the mountain is formed of trachyte. In the northern part of this group, and in the most northern island, Gardner's Island, in 17° 57′ S. lat. 184° 6′ E. long., Captain Edwards, in 1791, observed traces of a recent eruption, and smoke rose everywhere from the border of the table-land.

New Hebrides. The Island of Ahrym, in this group, contains an active volcano; and the same thing is stated by Forster with regard to that of Taxna.

Sandwich Islands. The eight islands forming this group are of volcanic origin, and, with the exception of some coral reefs and banks on the coasts, the prevailing rocks are lavas of various descriptions, basalt, with olivine and augite, clinkstone porphyry (probably trachyte), and amygdaloid, with zeolite. Hoffmann mentions severe craters in the Island of Oahu (Woahoo); craters were also noticed by the same naturalist in Maui (Mowee). Hawai, the Owhyhee of Captain Cook, is the largest and most elevated island of this volcanic group. Its structure and composition, like that of most of the islands in the South Sea, are but imperfectly known. Besides the great volcano of Kirauea, so graphically described by Ellis in his Polynesian

Researches, which is in activity, there are several in an extinguished state. One of them, Mouna Roa, is calculated by Captain King at 16,020 feet in height, estimating it according to the tropical line of snow. Another, Mouna Koah, the peaks of which are entirely covered with snow, cannot be less, he thinks, than 18,400 feet. Mr. Ellis reckons the height at between 15,000 and 16,000 feet. The whole island of Hawai, indeed, embracing a space of 4000 square miles, is, according to Ellis, one mass of lava and other volcanic matter, in different stages of decomposition.

South Shetland and South Orkney Islands. In these remote and little known islands, judging from the few specimens brought to Europe by that enterprising officer Weddell, and some other navigators, we can only say, generally, that, although primitive rocks, and also those of the secondary class, occur, the volcanic appear to be the most frequent; and that, in some islands, volcanic action is still perceptible. Weddell, in his interesting voyage towards the South Pole, remarks, that, on passing within 200 yards of Bridgman's Island, in S. lat. 62°, he observed smoke issuing with great violence through fissures in the rocks. The loftiest land among the South Shetlands, according to Weddell, is in James's Island, which rises to a height of 2500 feet above the sea; and the most southern islands hitherto discovered in the world are those named, by the same nautical discoverer, Hope Island, and Jameson's Island, situated in S. lat. 63°. The most northern known land is also insular, viz. Ross's Island, in N. lat. 80° 45½'.

Juan Fernandez. This island is about twelve miles in length and four in breadth, consisting of very high land, the loftiest summit of which rises to 3005 feet above the sea. Mr. Caldcleugh, the only geologist who has examined the island, could discover no trace of a modern volcano, said to exist there by former visiters: all the rocks, according to him, consist of basaltic greenstone, or rather basalt embedded with olivine.

The Gallapagos form a very characteristic volcanic group. The principal volcano lies in the most westerly island, viz. Narborough Island, which is said to be the loftiest of them all. Lieutenant Shillibeer, on the 4th of August, 1814, observed two volcanoes in this island in a state of activity. Captain Hall describes another of the group, viz. Abington Island, of basaltic formation, traversed by many craters of eruption. Lord Byron, on March 26, 1825, landed on Albermarle Island, which, he remarks, is the largest and loftiest of the Gallapagos group; and that several extinct craters show that fire has, at no remote period, been as active there as it then was in Narborough and some others. "Its length," continues Lord Byron, "from north to south, is about seventy-five miles, and the southern end appears to be well wooded. The heat was very great as we approached the land, the thermometer standing at 84°; and as we shot into the cove we disturbed such a number of aquatic birds and other animals, that we were nearly deafened with their wild and piercing cries. The place is like a new creation: the birds and beasts do not get out of our way; the pelicans and sea-lions look in our faces, as if we had no right to intrude on their solitude; the small birds are so tame that they hop upon our feet; and all this amidst volcanoes which are burning around us on either hand. Altogether, it is as wild and desolate a scene as imagination can picture."

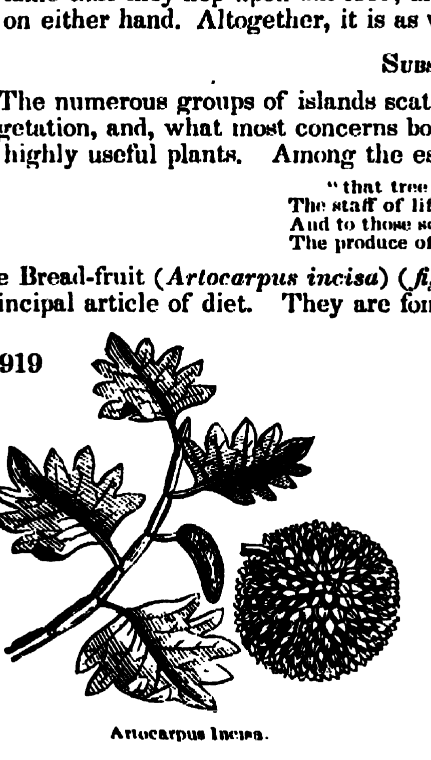
SUBSECT. 2.—*Botany.*

The numerous groups of islands scattered throughout the vast Pacific afford a very varied vegetation, and, what most concerns both us and the natives of them, a considerable number of highly useful plants. Among the esculent ones will especially rank

> "that tree which in unfailing stores
> The staff of life spontaneous pours,
> And to those southern islands yields
> The produce of our labour'd fields,"

the Bread-fruit (*Artocarpus incisa*) (*fig.* 919.), which is to the natives of these islands the principal article of diet. They are fond of it, and it evidently suits their constitutions, as a very perceptible improvement is often witnessed in the appearance of the people a few weeks after the bread-fruit season has commenced. For the chiefs it is usually dressed three times a day; but the poorer classes seldom cook it more than once a day, and even rebake it on the next. Various are the modes of preparing this valuable fruit. Sometimes the natives of a district assemble to prepare it in a large and common oven, when it is called opio. This is done by digging a large pit, 20 or 30 feet round, and filling it with firewood and large stones, till the heat almost brings the latter to a state of liquefaction, when the covering is removed, and many hundreds of ripe bread-fruit thrown in, with a few leaves laid over them; the remaining hot stones are placed above them, and the whole covered with leaves and earth. It remains in

919



Artocarpus Incisa.

this state a day or two, when the parties to whom the fruit belongs dig a hole and take out what they want, till the whole is consumed. Bread-fruit thus baked will keep good for several weeks after the oven is opened. This process is much discontinued since the introduction of Christianity, owing to the debauchery, rioting, feasting, and sleeping, which used to follow the opening of an opio oven.

Sometimes the fruit undergoes fermentation, by being piled in heaps and beaten to a kind of paste, when it is called mahi. It keeps many months, and, though sour and indigestible, is considered good food during the scarce seasons. The tree on which the bread-fruit grows, besides producing three or four regular crops annually, and being seldom quite destitute of ripe fruit, furnishes a valuable resin, that is used for making tight the seams of the canoes. The bark of the young branches affords cloth, and the trunks a valuable timber, of which canoes, houses, and most of the furniture of the people, are manufactured. There are 50 varieties of this tree, the principal being the Paea (*Artocarpus incisa*), and the Ura Maohe (*A. integrifolia*).

In the Sandwich Islands the bread-fruit is usually eaten green, when its rind is thin, but hard, like that of a melon, and entirely covered with slightly marked and small pentagonal sections. It is cooked by throwing it immediately on the fire, when the outer coat becomes charred, and the inner parts only roast like a potato, which it resembles in general consistency, though it is rather more spongy, and the whole, when the rind is removed, has the appearance of a beautiful light-coloured smoking loaf. The taste is like the hard-boiled yolk of an egg, slightly astringent; very good as a vegetable, though to English palates forming but a very indifferent substitute for bread.

The low intratropical islands of Polynesia yield Cocoa-nuts in the greatest abundance, which are called Haari, and, after the bread-fruit, may be considered the most serviceable fruits. The tree, too, is useful and highly ornamental, imparting to the landscape all the richness and elegance of equatorial verdure; but so well is it known, by forming a striking feature in all Oriental views, that it is here unnecessary to describe its straight and tapering stem, or the beautiful crown of long green leaves which it bears at the summit, and which, like a graceful plume, waves in the fitful breeze, and nods over the spreading wood or the humble shrubbery. Unlike the bread-fruit, plantain, and almost every tree affording valuable fruit, which require a fertile soil to bring them to perfection, the cocoa-nut, though it will grow in the rich valleys, and beside the streams that flow through them, yet flourishes equally on the barren sea-beach, amid fragments of coral and sand, where its roots are washed by every rising tide, and on the arid sides of sun-burnt mountains, where the soil is shallow, and where no stream is seen to flow. The trunk, whether in its timber or bark, serves the South Sea islanders for almost all purposes of shelter, protection, and defence, the best houses, canoes, spears, &c. being made of it; while the leaves serve for coverings to their heads, and are the emblems of authority used by the chiefs. The fibres that envelope the base of the leaves, woven in the loom of nature, afford a kind of cloth that is sometimes removed in pieces two or three feet wide, and cut into jackets and shirts by the natives, especially by the fishermen, who attach a cotton collar to the garment, and seem little annoyed by its wiry texture. But the fruit is the most precious part of this serviceable, hardy, and beautiful plant. In every stage, from its first formation after the fall of the blossom, to the hard, dry, and ripe nut that has almost begun to germinate, the fruit may be seen at the same time on the same tree; and, in one way or other, its pulp, milk, kernel, husk, or oil, are all rendered subservient to the wants of the South Sea islanders.

The Yam is afforded by the roots of Dioscorea alata (*fig.* 920.), which is cultivated with much care, though for that very reason to no great extent. It is requisite to plant it on the slopes of low hills, or the bottoms of valleys, where small terraces are purposely prepared for its reception, covered with rich earth, or decaying leaves. The roots are highly nutritive and well-flavoured, and are prepared for food either by baking or boiling. As they may be preserved longer out of the ground than any other vegetable, and thus form an excellent sea stock, it is to be regretted that yams are not more extensively grown in the South Sea Islands.

Taro is the root of Arum esculentum, a plant that forms the chief article of cultivation in the Sandwich and other Polynesian islands, answering to these nations the double purpose of vegetables and bread. The root requires to be planted in a hard soil, and kept covered with water from nine to fifteen months, when it is fit to eat, though it increases in size and excellence for two years or more. In the natural state, both the foliage and roots of taro have all the pungent acrid qualities that mark the genus to which the plant belongs; but these are so dissipated by cooking, whether baking or boiling, that they become mild and palatable, with no peculiar flavour more than belongs to good bread. The islanders bake the root in the native ovens, in the same way as the bread-fruit, already described, and then beat the paste into a mass like dough, called Poe. It is eaten by thrusting the fore-finger of the right hand into the mass, and securing as much as will adhere to it, passing it into the mouth with a hasty revolving motion of the hand and finger. The only name of the latter is derived from this use of it, "Karina Poe," the Poe Finger.

A kind of bread, chiefly used on festive occasions, is prepared from the root of the Pia

(*Cheilea Tacca*, or *Tacca pinnatifida*) (*fig.* 921.), which, though a spontaneous production of the soil, is also cultivated in the native gardens, by means of which much finer roots are obtained. The root is beaten to pulp and subjected to repeated washings, by which it becomes tasteless and colourless, when it is dried in the sun and fit for use. There is little doubt that, when the natives shall have acquired a better method of preparing it, this may become a valuable article of commerce, and vie with the West Indian arrow-root in appearance, as it already does in quality.

920

Dioscorea Alata.

921

Tacca Pinnatifida.

More rich and sweet to the taste than the cocoa-nut or bread-fruit, yet far less serviceable as food, is the Maia of the South Sea islanders, by which name they indiscriminately call both the Plantain and Banana (the *Musa sapientum* and *M. paradisiaca*). These are indigenous, though cultivated; their fruit is rich and nutritive, yet too common in the tropics to need a particular description here. There are, perhaps, thirty cultivated varieties, besides nearly twenty wild ones, which are also large and useful. The Orea, or Maiden Plantain, comes to the highest perfection, and is truly delicious. The stalk is seldom more than eight to twelve feet high; its leaves are fine specimens of tropical verdure, being often twelve to sixteen feet long, nearly two feet wide, of a delicate pea-green colour when recent, but rich bright yellow when dry. The fruit is about nine inches long, somewhat like a cucumber, except that it has frequently well-defined angles, which give it the appearance of being triangular or quadrangular, when ripe of a delicate yellow hue. Sixty or seventy fruits are sometimes attached to one stalk. Each plantain produces only one bunch of fruit, and is then removed, its place being supplied by the suckers that rise round the root: if these be four or five feet high when the parent stem is cut down, they will bear in about twelve months. The plantain fruit is always acceptable, and resembles in flavour a soft and sweet, but not very juicy pear: it is good in milk, and also in puddings and pies, and, when fermented, makes excellent vinegar.

In certain seasons of the year, when the bread-fruit is scarce, the natives supply the deficiency with the fruit of the Mape, or Rata, a native chestnut (*Inocarpus edulis*). This is a tree of stately growth and splendid foliage, rarely seen in high grounds, but generally flourishing on the margin of streams, the course of which may be frequently traced by the unbroken line of native chestnuts towering above the humbler trees. The singular trunk generally rises ten or twelve feet without a branch, and then has large umbrageous arms; but its chief feature is the supporting stems or buttresses, which it throws out from large projections on the stem, and which, striking root at a distance of three or four feet, appear like so many planks covered with bark, and placed around the original tree. The wood is fine-grained, but perishable: the nuts hang in clusters, covered with a thin husk; they are generally pulled when green, and eaten roasted. The Vi, or Brazilian Plum (*Spondias dulcis*), is an abundant and excellent fruit, oval, and of a bright yellow, not unlike a very large magnum bonum plum. The Ahio (*Eugenia malaccensis*) is perhaps the most juicy among the indigenous productions of the Society Islands. It resembles in its shape a small apple, and is of a beautiful bright red colour, containing a white and juicy, but rather insipid, pulp. Like the Vi, it bears but once a year, and is in season two or three months. Both these trees are propagated by seed.

Three species of fern afford food; the Pteris esculenta, Polypodium Medulla (Forster), and P. dichotomum (Thunberg).

Besides the valuable esculent plants now mentioned, is the Sugar-cane, or To (*Saccharum officinarum*), which grows spontaneously in the Sandwich Islands, and perhaps comes to greater perfection there than in any other part of the world. It was formerly cultivated to be eaten raw; the natives on a journey often carry a piece of sugar-cane, which furnishes a sweet and nourishing juice, appeasing at once both hunger and thirst. Within a few years they have been taught to extract the juice, and by boiling it prepare a very good sugar.

These various indigenous productions are not only eaten when dressed, as taken from the tree or dug from the ground, but by a diversity of combinations several excellent kinds of food are prepared from them, which may be termed the confectionary or made dishes of the South Sea islanders. With ripe bread-fruit and plantain mixed, they prepare Pepe, which, when baked, is not unlike soft gingerbread. A composition of arrow-root and grated cocoa-kernel is called Taota; and of arrow-root and plantain they make a number of sweet puddings, which are folded in leaves, and baked in the native ovens. A sauce is furnished by the ripe cocoa-nut, sliced, and put into a calabash of salt water, which they shake daily till the nut be dissolved. This is called Mitiaro, and, though most nauseous, is eaten as sauce to fish, bread-fruit, and almost every article of food.

The native fruits of the South Sea islands are delicious, and their number has been greatly increased by the addition of many of the most valuable tropical productions. Oranges, shaddocks, and limes were originally introduced by Captains Cook, Bligh, and Vancouver. Vines, which were cultivated successfully by the missionaries, have been nearly destroyed in the native wars. Citrons, tamarinds, pine-apples, guavas, Cape mulberries, and figs, with custard apples (*Anona triloba*), and coffee plants, thrive well. Many foreign vegetables have been tried, but they do not answer, any more than Wheat; still pumpkins, melons, water-melons, cucumbers, cabbages, and French beans, succeed tolerably.

To the list of esculent vegetables, fruits, and roots, given in the preceding pages, many might be added; but these suffice to show the abundance, diversity, nutritiveness, delicacy, and richness of the provisions spontaneously furnished to gratify the palate and supply the necessities of the inhabitants of Polynesia. Here man appears to live only for enjoyment, and to be placed in circumstances where every desire is satisfied, and even the fear of want is unknown. Amid the unrestrained enjoyment of a bounty so diversified and profuse, it is hardly possible to suppose that the Divine Giver of all should be neither recognised nor acknowledged, or that His mercies should foster insensibility and alienate the hearts of the participants of His bounty. Such, however, was the melancholy fact, although

> "The soil untill'd
> Pour'd forth spontaneous and abundant harvests,
> The forests cast their fruits, in husk or rind,
> Yielding sweet kernels or delicious pulp,
> Smooth oil, cool milk, and unfermented wine,
> In rich and exquisite variety;
> On these the indolent inhabitants
> Fed without care or forethought."

The art of preparing a spirituous liquor from the saccharine Ti root (*Dracæna terminalis*) (*fig.* 922.) was unhappily soon learned, and communicated from the natives of one group of islands to another, and all the demoralising and debasing effects of drunkenness were proportionably exhibited. The root may certainly be used for many valuable purposes; it is sweet and palatable when baked, and a kind of beer, very suitable for sea-store, is procured from it by fermentation; but much the greater part is employed in making an inebriating liquor that the natives use in great quantities. Whole districts frequently united to erect what might be termed a public still, which, though rude and unsightly, answered the purpose too well. A rude fragment of rock, excavated below to contain fire, and surmounted by the end of a large hollow tree, in which the macerated Ti root was placed, afforded the chief materials; while a bamboo cane, placed in a trough of cold water, condensed the distilled vapour, which flowed into a calabash or other vessel set below to receive it. When all was ready, the men and boys of the district assembled to drink the Ava, as this spirit was called; and they continued so employed for several days together, quaffing the liquor as it issued from the still, and then sinking into a state of the most indescribable wretchedness, or often practising the most ferocious barbarities. Sometimes, in a deserted still-house, may yet be seen the fragments of the rude boiler and its other appendages scattered in confusion on the ground, and among them the dead and mangled bodies of those who had been murdered in the frays that generally ended their dissipation. Even the crews of European vessels have been inhumanly murdered on these occasions. The Ava root might probably be used with great advantage as a medicine; Mr. Collie, the surgeon of Capt. Beechey's voyage, having attested its efficacy in cases of cutaneous diseases, which it removed in a few weeks, and even seemed to produce a renovating effect on the whole constitution. A representation of the Tahitian still, with many particulars respecting the Ava, may be found in Mr. Ellis's interesting work, the *Polynesian Researches*.

922

Dracæna Terminalis.

Capt. Beechey states, that the roots and stalks of a species of Pepper (*Piper methysticum*) have also been distilled in many of the islands; and though the importation of foreign spirits has much superseded the use of Ava, that intoxication, with its attendant demoralisation, is far more prevalent than formerly. The colour of Ava made from the pepper resembles thick dirty water, and its taste is so nauseous, that it was customary to swallow a hearty draught of water after the intoxicating dose, to remove its unpleasant taste and burning effects.

For clothing, the Polynesians avail themselves greatly of the bark afforded by the *Morus (Broussonetia) papyrifera*, or Paper Mulberry (*fig.* 923.). The manufacture of cloth, which is a tedious process, and the weaving of mats, which sometimes serve for garments as well as for bedding, fall to the department of the women. The inner bark is taken off in a single piece, by a longitudinal incision from end to end of the trunk; it is scraped, spread out, rolled and flattened, and so left to dry; the addition of other pieces being sometimes made, to increase the diameter. The wooden mallets with which the bark is beaten are four-sided; one side being smooth, the second coarsely grooved, the third furrowed more finely, and the fourth closely checked in squares or diamonds; and thus the pattern may be varied, and cloth may be produced, either smooth, striped like dimity, finely corded like muslin, or with a small check like diaper. The thickness of the cloth is various; some being like stout paper, or morocco leather, and others as fine and transparent as Italian crape. The cloth for sleeping, which is the largest and thickest, is made of ten sheets fastened together, and is as large as a common counterpane. This kind of cloth takes a beautiful dye, and much taste is exercised by the natives in blending the hues and figures. The best is little inferior in appearance to fine chintz; but its perishable nature (for it will not bear wetting), and the labour requisite for preparing it, render it a costly article. Occasionally the natives steep the cloth in cocoa-nut oil, in which chips of sandal-wood, or the fragrant berries of the Pandanus, have been infused, thus rendering it impervious to water, and imparting a perfume; but even this kind does not last many weeks. Five pieces, each four yards long, are requisite to make one Pau, as the cloth which the women wear round the waist is called.

923

Morus Papyrifera.

The leaves of the Pandanus odoratissima afford a very large kind of mat, generally used for laying on floors, sometimes twenty yards square, and beautifully fine, like the braid of a Leghorn bonnet. Sometimes they are quite white, or dyed of different colours, and finished with a rich fringe at the end. Necklaces, composed of the fragrant nut of this kind of Palm, or Screw pine, are worn round the neck on festive occasions.

The Tutui tree, the Viriviri, and the Sandal-wood, must close our imperfect account of the vegetable treasures of these highly favoured islands. The first, or Aleurites triloba (*fig.* 924.), affords a nut, which was the principal substitute for candles among the islanders before the introduction of oil by the whale ships. It is full of a rich oil, and after being slightly baked is formed into torches by stringing thirty or forty nuts together on a rush, and enclosing four or five of these strings in the leaves of the Ti (*Dracæna terminalis*), or Hala (*Pandanus odoratissima*). After being lighted, before one nut is consumed, the flame communicates to the oil of the one below; and as the blaze expires, the shell of the exhausted nut is struck off, till the whole is consumed. The tree also yields a gum used in preparing the native cloth, and the bark affords a permanent dye; still the nuts are the most precious part. Sometimes they are burnt to charcoal and pulverised, for tattooing the skin, painting canoes, &c.

924

Aleurites Triloba.

The Viriviri is the Erythrina Corallodendron, a beautiful tree, covered with splendid flowers, and yielding a delightful shade. The ease with which cuttings of it strike root, and the lightness and fine grain of the wood, render it valuable for fences, and the best canoes and surf boards are made of it.

The Sandal-wood of the South Sea islands is considered by Capt. Beechey to be the same as that of the East Indies (*Santalum album*); but the specimens brought home by the naturalists of that expedition prove it to be the Santalum Freycinetianum (*fig.* 925.) of Gaudichaud, in *Freycinet's Voyage*, p. 442 to 445. It is, according to that navigator, the only commercial production of the Sandwich Islands. It is a tolerably heavy and solid wood; and, after the sap or part next the bark has been taken off, is of a light yellow or brown colour, containing a quantity of aromatic oil. Although a plant of slow growth, it is found in abundance in all the mountainous parts of the Sandwich Islands, and is cut down in great quantities by the natives, as it constitutes their principal article of exportation. It is brought down to the beach in pieces, from a foot to eighteen inches in diameter, and six to eight feet long, to small sticks, not more than an inch thick, and a foot and a half long. It is sold by weight; and the merchants, who exchange for it articles of European or Chinese manufacture, take it to the Canton market, where it is bought by the Chinese, for the purpose of preparing incense to burn in their idol temples.

925

Santalum Freycinetianum.

The Sandal-wood, it is known, requires many years to arrive at a fit state for the market, and, its cultivation not having been attended to, the wood is becoming scarce, while the debt of the nation is considerably increased. During Capt. Beechey's visit, in order to avoid the expense attending the collection of this wood, it became necessary to lay a tax upon the people of a pekul (or 133 lbs.) each, which they were required to bring from the mountains under a penalty of four dollars, and to deposit with the authorities of Honoruru. The greater part of the wood brought in was small and crooked, and only fit for the use of the jos-houses in China, where it is burned as incense; but the consumption of it there is diminished, in consequence of an order for its disuse in those places of worship. The odour of the sandal-wood of the Sandwich Islands is very inferior to that of Malabar, Ceylon, and other parts of India.

Subsect. 3.—*Zoology*

The Zoological character of the South Sea islands has already been indicated in our general observations upon Australasia. There are, however, many local peculiarities; but the zoology of this division is still obscure; for it has been little visited, since the voyages of the celebrated Banks, by scientific naturalists. The quadrupeds are so few that they hardly deserve notice; nor do any of the islands seem to possess a single species of kangaroo. The birds are little better known: the lories are of that particular section named *Trichoglossus*, or parrakeet lories, a group dispersed over the whole Oceanic Islands, and abundant in New Holland, while the honey-suckers are but slight deviations from those forms common to Australia Proper. As yet, therefore, we cannot name among the land-birds, any distinct genus peculiar to this division; although, in all probability, future discoveries may bring some to light.

Sect. III.—*Historical Geography.*

The discovery of the Polynesian Islands has been one of the leading achievements of modern maritime enterprise. They were entirely unknown till a period subsequent to the discovery of America and of the passage round the Cape of Good Hope. In 1513, however, Magellan passed through the Straits which bear his name, and measured the entire breadth of the Pacific. He sailed southward of most of these islands, touching only at the Ladrones, whence he proceeded to the Philippines. Drake and Cavendish, whose circumnavigation was connected with their attacks upon the Spanish possessions in Peru and Mexico, crossed the ocean too far north to come in contact with the principal groups.

The Spaniards, about the end of the century, made considerable efforts to explore the South Sea from Peru. Mendana, in 1575, discovered in its eastern quarter the Solomon Isles; and, twenty years after, in proceeding to found a colony there, he lighted upon a group called from him the Mendana, or, from his employer, the Marquesas Islands. Quiros, in the voyage distinguished by the discovery of New Holland, passed a considerable and fine island, which he named Sagittaria, and which there is great reason to suppose was Otaheite.

The Dutch succeeded in the career of austral discovery. In 1615–16, Schouten and Le Maire doubled Cape Horn, discovering Staaten Land, and the Straits bearing the name of the latter navigator. About the same time Tasman, from Java, performed the important voyage in which, after discovering Van Diemen's Land and New Zealand, he arrived at the interesting group of the Friendly Islands. Roggewein, also, towards the end of the century, in crossing the Pacific, made several discoveries, and, in particular, that of Easter Island.

It was England, however, which, under the reign and auspices of George III., mainly achieved the exploration of this remote and interesting portion of the globe. The series of voyages fitted out by government began with those of Byron, Wallis, and Carteret. Wallis was the first who certainly touched on the beautiful shores of Otaheite; and a number of detached islands were brought to light by these navigators. But the three voyages of Cook, between 1767 and 1779, formed the grandest era of Oceanic discovery. If the Society and Friendly Islands had been already known, he was the first who made careful observations on the character and social state of the remarkable tribes by whom they are inhabited. The important group of the Sandwich islands was entirely discovered by him, though, from an unhappy misunderstanding, they proved the fatal scene of his untimely death. The operations of the same illustrious navigator in the Australasian islands, on the shores of America, and in the arctic seas north and south of these latitudes, do not belong to the present subject. At the close of the career of Cook, all the leading outlines of the Polynesian region had been explored; and the efforts of Vancouver, his successor, were chiefly employed in completing the survey of the north-west coast of America. Yet ample and curious gleanings were still left for Bougainville, the contemporary of Cook; for Pérouse, Labillardière, and D'Entrecasteaux, afterwards sent out by the French government, who still more recently employed Freycinet, Duperrey, D'Urville, and Laplace. American navigators have made some important discoveries and some interesting observations. Something still remained for the Russian navigators Krusenstern and Kotzebue, and for Captain Beechey, not to mention other names of secondary importance. There probably remain still detached islands, and even small groups, in this great expanse of ocean, to reward the search of future navigators.

European intercourse, during the present century, has effected a remarkable change upon these islands. Among the most active agents have been the English and American missionaries: a party of the former, sent out by the London society, were in 1797 landed in Otaheite, by Captain Wilson, from the ship Duff. Their labours were attended with little success, till after the lapse of nearly twenty years, when, in consequence of events which will be noticed in treating of that island, they succeeded in overthrowing idolatry, with the bloody and superstitious rites connected with it, and in acquiring an almost paramount influence over prince and people. This influence they have, in subservience to their main object, employed in studiously instructing the natives in civilised habits, and in the arts and industry of Europe; efforts which have been attended with a certain though not complete success. A similar change, within the last ten years, has been effected in the Sandwich Islands, by the agency of American missionaries. Another cause has acted powerfully upon this quarter of the world. Since Great Britain, the United States, and other great maritime nations have extended their navigation to the most distant seas, these islands, once considered so remote, have been included within the regular commercial lines by which the ocean is traversed. As the route from Britain to her Australian settlements by Cape Horn is nearly equidistant with that by the Cape of Good Hope, vessels frequently prefer it, and are thus led to touch for refreshment at the Society Islands. The Sandwich Islands are situated in the route to the whale fishery in the Northern Pacific, and in that of the fur trade from north-west America to China. Hence their harbours are sometimes crowded with vessels, and American merchants have even settled in their ports. The mariners and missionaries, two very opposite characters, do not always act in unison, or report very favourably of each other; but they have combined in producing a somewhat grotesque mixture of the arts, manners, and civilisation of Europe, with the rude and licentious habits to which the people were previously addicted.

SECT. IV.—*Political Geography.*

The political state of these islands is simple, though not exactly what might have been expected in such a stage of social life. The people do not enjoy the rude independence of savage life, nor are any of the governments moulded into a republican form. They are ruled by chiefs, in an absolute or at least arbitrary manner, with a power only controlled by the influence of inferior chiefs who hold sway over particular districts. These higher classes, being exempted from labour, and better fed than their inferiors, are so much taller and handsomer, that they appear almost like a different race. Yet, amid this great distinction of ranks, no very strict police is maintained; and the punishment of crimes is in general left to the private resentment of the injured party.

SECT. V.—*Productive Industry.*

The natural advantages possessed by these islands, as to soil and climate, are not, perhaps, surpassed by those of any other region. Their situation, entirely within the tropics, might have exposed them to be scorched beneath the solar influence; but the vapours exhaled from the vast ocean which washes their shores, and the interior eminences, secure a copious supply of humidity, which, combined with the warmth, produces a most luxuriant vegetation. Some of the mountains are the seat of powerful volcanic action, others are steep and rocky; but many are clothed to the summit with majestic forests, and the plains which they water are adapted to the finest species of tropical produce. Their small extent, however, and remote situation, preclude the expectation that they will ever compete with tropical America or India, in supplying Europe with these valuable commodities.

Agriculture is by no means altogether neglected; though its operations are in many places nearly superseded by the spontaneous profusion with which nature furnishes the means of subsistence, and even of luxury. Otaheite and the neighbouring islands are covered, almost without culture, with forests of the cocoa-nut palm and the bread-fruit tree. Nearly their only labour consists in raising, upon small cleared spots, the potato and the yam, as additions to their diet. The only domestic animals are the hog and the dog, both used as food, and forming luxuries which appear only at the tables of the rich. The missionaries have made attempts to introduce the larger and more useful quadrupeds, but without effect, through the carelessness and improvidence of the natives. In the Friendly Islands a more industrious spirit is perceptible; the fields are well cultivated, and laid out with neatness and order. The Sandwich Islanders, having a soil comparatively arid and barren, have exerted still greater diligence, not only in tillage and enclosure, but in extensive and elaborate processes for irrigation. The absence, Captain Beechey observes, of the green and shady forests of Otaheite, produces, at first view, an unfavourable impression; but, on mounting the hills, every valley is seen covered with plantations of *taro*, the vegetable substance on which these islanders chiefly subsist. According to very recent accounts, European settlers have introduced into Otaheite the cultivation of sugar, of good quality, sufficient for the supply of the surrounding islands.

Manufactures and arts are by no means in so forward a state; yet the natives produce some fine fabrics for the accommodation and ornament of the chiefs. From the bark of certain trees are prepared cloths of considerable beauty; while from other substances very fine mats are plaited. Feathers are often framed into splendid and fantastic head-dresses. The progress in the useful arts is the more meritorious, as the natives are destitute of the most important instrument, iron; a want so much felt, that, at their first intercourse with Europeans, the smallest and rudest fragments of that metal were received in exchange for a large value in commodities, and were prized almost like silver and gold in Europe. It is surprising how tolerably the deficiency was supplied by implements of stone, hard wood, or bone, which were rendered fit for all the purposes of agriculture and industry. In particular, they had succeeded with these imperfect means in constructing spacious and commodious canoes, fitted not only for navigating round their coasts, and from one neighbouring island to another, but for performing with safety voyages over a great extent of the Pacific. Some, destined for state or for war, are highly, and, indeed, fantastically ornamented; others are diligently employed in fishing, whence the people derive their chief supply of animal food. The military implements, as usual in such societies, are variously and skilfully framed. The missionaries have shown an enlightened zeal to introduce European arts and industry. A carpenter and a weaver were sent to Otaheite; and even a cotton factory, with the full concurrence of the chiefs, was established at Eimeo. The people, under the first impulse of novelty, worked hard, and produced a cloth somewhat coarse, but solid and durable. They soon, however, began to tire of continued application, and the fabric has not yet made much progress. Captain Beechey dreads that the composure and indifference which they manifest on such subjects will be the bane of their future prosperity. It is very well, they say, for Europeans to work, who need fine clothes and fine ships, but they are satisfied with the abundance in which nature has placed them. It may be hoped, however, that the continuance of the intercourse with Europeans will inspire a taste for their arts and luxuries, and a willingness to make exertions in order to procure them.

Commerce, unless of the most limited internal kind, had no existence till very recently. These islands, however fertile, have no commodities which can bear the cost of a distant conveyance, except the sandal wood of the Sandwich Islands, which finds a ready market in China, but is beginning to be exhausted. Their ports are frequented almost solely by ships on their way to the whale-fisheries or across the Pacific. These vessels, arriving after a long and exhausting voyage, stand in need of provisions and supplies, and are often disposed to spend some time in refitting and restoring the health of their crews: they afford thus a considerable market for the timber, fruits, and live stock produced on the islands. According to a late statement, the number of vessels annually touching at Otaheite amount to 200; and the Sandwich Islands are said to be frequented by more than double that number. From Captain Beechey's report, the time appears to be past when a few beads and bits of broken iron were sufficient to procure a copious supply; nothing but good cloth and hard dollars bear now a value in this market.

Sect. VI.—*Civil and Social State.*

The population of this numerous insular range has never been estimated, unless by the most uncertain conjectures. Those formed by Cook and Forster were so large, that Hassel, calculating from them, assigns to the whole no less than 1,400,000. The observations of recent travellers, and particularly of the missionaries, leave no doubt that this number is very grossly exaggerated. We cannot quote any opinion of M. Balbi, who has mixed Polynesia with the Oriental Archipelago. There appear no means of arriving at precision on the subject; but we have little doubt that 500,000 would be rather above than under the entire population of this region.

Social life, among these islanders, presents peculiar and picturesque aspects. Instead of those fierce and gloomy propensities which usually sway the breast of savage tribes, their manners are distinguished by a courtesy, gaiety, and amenity, which, combined with the beauty and abundance with which the land is gifted, made it appear to the first voyagers like a terrestrial paradise. These flattering appearances, however, proved in many respects to be very fallacious. Amid the lavish kindness with which Europeans were greeted, they soon discovered an universal propensity to pilfering, while the virtue of the female sex was not proof against nails, buttons, or the most insignificant toys. These faults were, doubtless, aggravated by the attractive nature of these new and tempting objects; but it was, moreover, soon evident, that their dances and other amusements were conducted in a manner the most revolting to decorum, and that there existed in Otaheite a society called *arreoy*, who made it a regular system to have wives in common, and to put their offspring to death. Nor was infanticide the only practice marked by the ferocity of savage life. In many of the islands cannibalism is still practised, and in the most polished there remain traces of its former existence. Even in Otaheite, war is carried on in the most atrocious spirit of vengeance. The victor, after slaying his unresisting enemy, dreadfully mangles his body, exclaiming, "You killed my father! you robbed me of my wife!" &c. The people of the Sandwich and Friendly Islands were at first considered more respectable; but their character, on further acquaintance, was found to be stained with practices equally revolting.

The native religion of these islanders may be ranked amongst the darkest forms of superstition. It not only gives no support to virtue, but affords full sanction to the most cruel and dissolute practices. Even the flagitious society of arreoy was supposed to possess a peculiar sanctity. Not only animals were offered in profusion, but human victims were universally sacrificed on the bloody altars of the Polynesian divinities. Their *morais*, or temples (*fig.* 926.), are long low enclosures, commonly of stone, in the depth of forests, and surrounded with trees. One of the observances which most powerfully influenced their habitual existence was that of *taboo*, a species of prohibition, which a person, in honour of his favourite divinity, may impose upon himself, upon any part of his body, his house, his boat, or whatever belongs to him. The chief has an extensive power to taboo any individual or any part of the island under his jurisdiction. The tabooed object must remain sacred; it must not be used, touched, or trod upon by any human being, and the person who violates this prohibition imagines himself liable to the mysterious wrath of the being in whose honour it has been imposed. He is exposed also to the furious and often bloody vengeance of the author of the taboo, who considers his guardian power thus dishonoured. This observance is sometimes usefully applied to the protection of exposed property and cultivated fields, but, in general, it both imposes severe privation, and gives birth to cruel enmities and bloody outrage.

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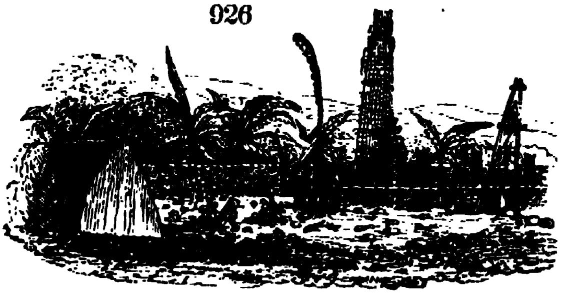

Morai or Temple.

The missionaries, as already observed, have attained a predominant influence in the two principal of these groups. Messrs. Tyerman and Bennet, in their parting address, say, seemingly with perfect truth,—"In things both spiritual and temporal, the people, from the highest to the lowest, look to you for counsel, for instruction, for example." The present king of Otaheite, on his accession, took the oath to the missionaries, was anointed and crowned by them. So high is the idea attached to the character, that many natives were found impressed with the belief that King George was a missionary! Spacious churches have been built, which the natives frequent, decently dressed, and with a serious and reverential air. Still the missionaries candidly admit that much is yet wanting, both as to Christian knowledge and conduct. The observance of the Sabbath, which is the most conspicuous part of their religious practice, seems, in a good measure, connected with their ancient veneration for any thing tabooed. Captain Beechey alleges that they venerate their bibles, in some degree, rather as household gods, means of mysterious protection, than as sources of instruction. Even those who admit that birds have no longer the power of prophecy cannot be persuaded that they did not possess it previously to the missionaries' arrival. There appears to be a considerable class, branded with the name *ouri outi* (rusty iron), who observe neither the old nor the new religion, but indulge at once in native excesses, and in those of intoxication, which they have learned from Europeans. Yet, on the whole, it seems undeniable that the grossest superstitions have been demolished, that human victims no longer bleed, that the arreoy society is broken up, infanticide has ceased, and public decorum is generally observed. Captains Beechey and Kotzebue, who maintain that there is no real improvement in the morals of the islanders, judge, probably, from the effect of the arrival of an European vessel, which suspends their ordinary occupations, and attracts, in crowds, the least orderly and respectable classes. On the whole, however, social life, throughout these islands, appears strangely compounded of three elements, which co-exist, not in harmonious combination, but in hostile collision: first, the rude licentiousness, dark superstition, and wild gaiety, which originally characterised the natives; then the strict system of religious and moral observance, which the missionaries have studiously introduced; lastly, the roving and reckless habits of which the example is set by the numerous mariners who now visit these shores. The missionaries have certainly introduced letters into these islands, where, previously, nothing of that nature existed; neither hieroglyphics, pictorial representations, nor symbols of any description. As soon as Christianity was established, they set on foot schools; and the natives applied themselves with extraordinary ardour to this new acquisition. Mr. Ellis tells us, that "aged chiefs and priests, and hardy warriors, with their spelling-books in their hands, might be seen sitting, hour after hour, on the benches in the schools, by the side, perhaps, of some smiling boy or girl, by whom they were thankful to be taught the use of letters." Yet, after the first novelty was over, considerable difficulty has been found in obtaining regular attendance, which yet is anxiously desired, not only with a view to instruction, but for forming the youth to regular habits. Still a considerable number have thus attained a competent knowledge of reading, writing, and arithmetic.

Amusements, among a people who subsisted almost without labour, and were endowed with so gay a disposition, were varied, and pursued with excessive ardour. The most universal were the dances performed on all occasions of pleasure, worship, state, or ceremonious reception. Those of the first two descriptions were often very exceptionable; the others were generally slow and stately, with graceful, and, sometimes, fantastic movements, resembling the minuet of Europe (*fig.* 927.). Athletic exercises, particularly wrestling, are also very general. Sailing in canoes, bathing, and swimming, are so universal, that the natives may almost be considered an amphibious race. The missionaries have been blamed for making a too sweeping proscription of all amusements, particularly the dance; but it is stated that most of them were so closely connected with previous superstitious and licentious habits, that, if any latitude had been allowed, the people would soon have relapsed fully into their former disorders.

927

Otaheitean Dance.

The habitations of these islanders are remarkably simple, consisting merely of one long apartment, raised from the ground on posts, thatched with palm leaves, and left in a great measure open to the air. No partition divides the inmates from each other; the most commodious place is occupied by the master and mistress of the house, while the others are accommodated according to their respective dignities. They have no regular times of sleeping or eating, but indulge in either according to inclination. In the Sandwich Islands, at least, the missionaries mention, that they seldom entered a house during the day without some of the inmates being asleep, or during the night, without some being awake. The natives sleep in their ordinary clothes; the only furniture consists of mats spread on the floor, which, in the case of the chiefs, are often very fine, and piled above each other to the number of twenty or thirty.

The dress of the Polynesians consisted originally of the native cloths, already described, wrapped loosely round the body, and leaving a large part of the limbs and bosom uncovered. The head-dress was richly and often fantastically ornamented with feathers and long plaits of human hair. The Sandwich Islanders were fond of thus ornamenting a singular species of masks (*fig.* 928.), in which they delighted to disguise themselves. European connection has introduced a strange and grotesque mixture of civilised customs and ornaments. Captain Beechey describes a judge who, in imitation of his brethren in England, had got on a white oakum wig, with long curls flowing over his shoulders, while above were bright feathers and variously tinted plaits of human hair, but beneath neither shoes, stockings, nor trousers. Messrs. Tyerman and Bennet saw in the Sandwich Islands an opulent chief, who, seeking to distinguish himself by peculiar finery, had put a white shirt above a black coat, taking care that a large portion of the under garment should remain visible. Similar odd combinations were observed in all the habits of life. The same missionaries observed two queens conveyed with pride in one wheelbarrow, though slowly, as the bearers were often obliged to pause beneath the weight of royalty. The same ladies were observed next day collecting rushes in a neighbouring marsh, which their majesties bore on their naked backs to be strewed on the royal floor. Under the head of ornament, though not of dress, we must not omit tattooing, that singular paint-

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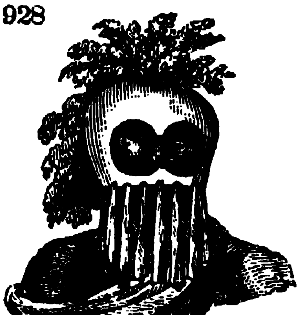

Sandwich Islander with Mask.

ing of which the human skin is the canvas. To a great extent, it is universal over Polynesia, and extends to several of the principal Australasian islands, particularly New Zealand. There, and in the Marquesas, the body of the chiefs is entirely tattooed over, leaving no trace of the original skin; but in Otaheite and the Sandwich Islands it is confined to particular parts, especially the thighs and part of the legs, being applied sometimes to the palms of the hands, and even to the tongue; but the face is not thus disfigured. The representations are sometimes arbitrary, but more commonly consist of animals rudely delineated, occasionally of stars, circles, and crescents. These are supposed to indicate the rank or tribe of the person tattooed, and also the arrival at years of maturity. They are worked in with sharp instruments of stone, and the wounds variously coloured, either by the mothers, or by professional operators; and even young girls endure with fortitude exquisite torture, in the proud hope of the dignity to which it will raise them.

SECT. VII.—*Local Geography.*

The numerous islands which stud this part of the Pacific may be divided into the great groups of the Friendly, Society, Sandwich, Marquesas or Mendana, Caroline, and Marianne Islands. The other clusters which have been named by navigators seem all to be branches or appendages of these great archipelagoes. We may add, however, the great coral range and a few detached islands, that stand alone amid a wide expanse of ocean.

SUBSECT 1.—*Society Islands.*

The Society Islands have excited a higher interest than any other group in the South Sea. Though not the largest, they are the most beautiful, the most fruitful, and those in which civilisation and polished manners have made the greatest progress. They are also those with which Europe has held the most close and intimate connection.

Otaheite (*fig.* 929.), or Tahiti, the largest and finest of these islands, ranks always as the brightest gem of the Pacific. This celebrated island, discovered probably by Quiros, under the name of Sagittaria, re-discovered by Wallis, and fully explored by Cook, consists of two peninsulas, one about ninety, the other thirty miles in circumference. The interior rises into mountains loftier than any others in those seas, except the colossal peaks in the Sandwich Islands. Oroeno and Tobronu are respectively of the height of 10,800 and 9500 feet; but, in this genial climate, trees and verdure clothe their almost inaccessible summits, and the scenery is equally distinguished by grandeur and beauty. These mountains compose as it were the island; only a narrow plain intervenes between them and the sea, while their cliffs in many places breast the waves. The greater part of the surface consists of beautiful hills and slopes, watered by clear streams, which dash in numerous cascades. Otaheite is nearly covered by one entire forest of bread-fruit, cocoa-nut, banana, and other valuable trees, a few spots only being cleared for the culture of the yam. The fruits ripen at different seasons, according as the mountain slopes have a northern or southern exposure. The Otaheitans presented the most complete example, both of what is engaging in manners and dissolute in conduct among the South Sea islanders. The profligate association of the arreoy was peculiar to it. In this island, however, the influence of Christianity and civilisation has been earliest and most fully felt. On the 6th of March, 1797, Captain Wilson landed from the ship Duff a party of missionaries, sent out by the generous zeal of the London society. Although, however, they were well treated, and listened to, they could not boast, in 1808, of having made a single genuine convert. They soon after quitted Otaheite, and left only a few of their number in Eimeo. A remarkable change, however, then ensued. Pomarre, attacked by a body of rebellious subjects, was driven out of Otaheite, and forced to take refuge in Eimeo. In this distress, his mind was opened to the instructions of the missionaries, and after being with his family among the most zealous votaries of the ancient superstition, he made an open profession of Christianity. The cooking and eating of a turtle, always before held as a tabooed animal, first publicly announced the change. Several distinguished chiefs soon followed the example. The daring experiment, made by one of them named Hetotte, is particularly recorded by Captain Beechey. It had been hitherto an article of undoubted faith that whoever should eat any portion of the flesh of a hog offered in sacrifice would be punished with instant death. Hetotte determined to make the awful trial: he stole a portion of the sacred pork, retired to a corner, ate it, and, in dread suspense, awaited the issue. Finding, however, that, instead of the threatened doom, he experienced from this food the usual nourishment and refreshment, he not only abandoned the superstition himself, but denounced it to all his coun-

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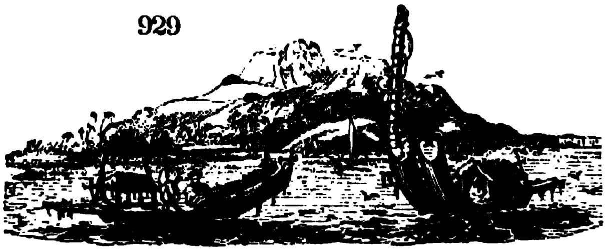

View of Otaheite.

trymen. After Eimeo had been thus christianised, Pomarre was invited back to Otaheite by a strong body of adherents. His first attempt was unsuccessful; but in 1815 he completely defeated the rebel and pagan army, and, having subjected the whole island, overthrew the temples and altars, setting up the holy log, supposed to be frequently inspired, as a post in his kitchen. His sister Aimata, who succeeded him in 1827, supports the same system; and the missionaries have acquired an influence in Otaheite, the results of which have been described in the preceding chapter. The population of the island was estimated by Cook at upwards of 120,000, which was probably from the first much exaggerated. Captain Wilson, after a careful enumeration in 1797, found little more than 16,000; and these have since diminished to one-half. This depopulation seems sufficiently accounted for by Mr. Ellis from the bloody wars among themselves, with the introduction from Europe of contagious diseases and of the use of ardent spirits.

The other Society Islands are generally fine and fruitful, but do not present any very striking distinctive characters. Eimeo, or Morea, discovered by Wallis, has a peak nearly 3000 feet high, and broad ridges cross it in various directions and form a rocky coast; but wide well-wooded valleys intervene, and the port of Taloo is one of the finest in the South Sea. But Eimeo is chiefly distinguished as still the centre of that European and Christian civilisation which originated there. It contains the South Sea academy, a printing-office, and a cotton factory; all, it is to be regretted, on too small a scale, and making too little progress. Ulietea, or Raiatea, is, next to Otaheite, the largest of the group, being nearly sixty miles in circumference, and having closely adjoining to it Otaha, about half that size. Both are encircled by a coral reef, bordered by numerous islets. Ulietea is governed by a separate king; the people are smaller, darker in colour, and somewhat ruder than those of Otaheite. Huahine, on which is a flourishing mission, has a fine harbour. Borabora, or Bolabola, is a bold, finely wooded, and picturesque island, governed by separate chiefs, and inhabited by a fierce hardy race, who afford a place of refuge to outlawed and desperate characters from other quarters. Of smaller islands, Maitea, on whose coast pearl oysters are found, Maurua or Maupili, and Toobouai, are deserving of mention.

Subsect. 2.—*Paumatu Archipelago, or Low Islands.*

The Archipelago of Low Islands is the name given to an almost numberless range of islets, extending E.S.E. from the Society Islands, and passed in the route thither from Cape Horn. Their origin and structure are extremely remarkable. Coralline plants, growing at the bottom of the ocean, harbour a class of lithophytic insects, which, during their life, form round them a substance that, after their death, becomes hard as stone. The rockwork of one generation affords a basis to that of the succeeding, and layers are thus placed over each other till they reach the surface of the water, and form islands. As soon as the rock is exposed to the air, the insects quit it, leaving it perforated by numerous hollows; but they work for some time laterally, forming, immediately under water, concealed table-reefs, which have given occasion to numerous and fatal shipwrecks. Meantime, from amid the interstices of the rocks plants spring up, and, on their decay, are converted into soil, till the new island is covered with luxuriant vegetation. These islands scarcely ever rise more than a few feet above the sea; for the low hills which some navigators have thought they observed, seem to be only the lofty form of the *pandanus*, which usually springs up on such shores. These coasts have usually parallel to them a coral reef, separated by a lagoon, into which it is often difficult to find an entrance. Of thirty-two islands observed by Captain Beechey, twenty-nine had lagoons. When these wonderful ocean-fabrics were first noticed, an impression prevailed that they were proceeding to a vast extent, and that the coralline insects were rearing a continent from beneath the Pacific; but the observations of Gaimard, Beechey, and others, rather suggest the conclusion that they are raised only under local and peculiar circumstances, not yet fully ascertained. The formation, also, seems to go on very slowly. The wreck of the Matilda, left in 1802 on a coral reef, was found by Captain Beechey, in 1825, unaltered in position, and without any coral having grown over it. That navigator also remarks, that these islands are found all in the direction of the trade-wind; that the windward side is the highest, while the other is only a half-drowned reef. The surface displays in general a blooming but little varied vegetation. The leading tree is the pandanus, and next to it the cocoa-nut, both valuable, and yielding nutritive fruits. The people are little known, as the slender supplies to be obtained, and the dangerous nature of the coasts, have induced mariners to sail through them as quickly as possible. Some of them are thinly peopled, some entirely desert, and some alternately occupied and abandoned. The people are considered by Hassel to be of the Malay race, and to resemble the Society Islanders; but Beechey, who held more intercourse with them than any previous navigator, describes them as more allied to the Oriental negro, and in a very low state of civilisation. The natives of Clermont-Tonnerre, Serle, and other islands, were judged to resemble the New Caledonians. The Chain Islanders were a most brutal race, cruelly oppressing their females, and confessing that they had, lately at least, been guilty of cannibalism. The people of the Gambier Islands were completely astonished at the view of a dog, never having seen any animal larger than a rat. They were most determined thieves; and, when a musket was pointed at them, imagined that it was intended as a present, and ran forward to catch it. This group is distinguished as being the only one that is high and volcanic, though surrounded by coral reefs. Where the people are of fairer complexion, their moral character seems also improved. Such is the case in Lagoon Island, where the people were extremely honest, though eager in traffic, exchanging all they had for nails, bits of iron, and beads. Those of Byam Martin had an Otaheitan cast of features; and a party, wafted by a storm from that island, 600 miles distant, had brought with them Testaments, hymn-books, &c. It would be impossible to attempt going over the details of these almost innumerable islets. Bow Island, 30 miles long and 5 broad, is well wooded, but the people barbarous. King George's Islands, discovered by Byron in 1765, consist of two small groups, well furnished with water and provisions, and inhabited by a numerous race, resembling the Otaheiteans, and understanding their language. Queen Charlotte's Islands, and Aurora, are of nearly similar character. In the most northerly part of the archipelago, Byron saw one which bore an appearance of brilliant vegetation; but when he had reached it with difficulty through openings in the coral reef, he found it destitute either of water or provisions, and named it Disappointment. The Russian navigators Kotzebue and Bellinghausen discovered islands to which they gave the name of Romanzoff, Suvaroff, and Krusenstern; but they did not see any inhabitants.

SUBSECT. 3.—*Pitcairn Island.*

Pitcairn Island, a small detached spot, standing almost alone, near the eastern extremity of this range, has attracted a remarkable interest, in consequence of events which made it the abode of a British population. In 1789, Captain Bligh visited Otaheite, with the view of transplanting the bread-fruit tree into the West Indies. After leaving the island, however, a violent mutiny arose among his crew, who, headed by one named Christian turned him out with a handful of adherents, into a boat, and left them in the midst of the Pacific. Thus abandoned, it seemed almost certain that he must perish; yet by a train of almost miraculous efforts and events, he succeeded in reaching Britain in safety. The mutineers first returned to Otaheite, and then made an attempt to settle on the small neighbouring island of Toobouai; but, dreading discovery by British vessels touching at these islands, Christian determined to seek some spot more solitary and remote. He fixed upon Pitcairn Island, discovered by Captain Carteret, and arrived there in January, 1790, with eight of his comrades, six native men, and twelve females, whom they had invited on board, and then carried off. In this ill-composed society, however, the most dreadful dissensions soon arose. Conflicts took place, especially between the natives and Europeans, and Christian became an early victim. In ten years, thirteen men had been killed, and there remained alive only one, named Adams with six women and nineteen children. Adams, after witnessing such scenes of misery and crime, had been led to habits of serious reflection and a careful perusal of the Scriptures. He now determined thoroughly to reform himself, and, if possible, his companions. The Otaheitean females proved tractable, and were easily converted; and the children, trained in strict principles of religion, grew up a race directly opposite to that from which they sprang. Captain Beechey, in 1825, found thirty-six males, and thirty females, forming a happy little society, well instructed, orderly, and friendly. They felt, however, a desire to see something more of the world of which they heard occasionally from passing navigators. Adams is since dead.

SUBSECT. 4.—*Easter Island.*

Easter Island, or Vaihou, stands entirely by itself, considerably east of the above, and forming the extremity on that side of the great Polynesian range. It was first discovered, in 1722, by Roggewein, and has since been frequently visited, as it lies in the direct route from Cape Horn to the Society Islands. Though only twenty miles in circuit, it has excited much interest from its physical aspect and social state. The shore is bold and rocky, and the whole island bears the most evident marks of volcanic action. The numerous rocks are composed entirely of lava, and small extinct craters are found on almost all their summits. De Langle, who accompanied La Pérouse, penetrated to a large one in the interior, about five miles in circumference, and at least 800 feet deep; but the grass growing on its sides showed that the subterraneous fire had long ceased to issue. In consequence of this structure, the island is irrigated by no streams, and water is found only in ponds. Although this deficiency deprives it of the cocoa-nut and the bread-fruit tree, yet the industry of the inhabitants has given to its rocky hills a verdant and smiling appearance, and has supplied yams, potatoes, and other vegetables, in considerable plenty. The natives are a handsome race, especially the females; but the gigantic size ascribed to them by Roggewein is not confirmed by later observers, and their frames seem formed more for activity than strength. They exhibit, in the extreme, the gay and polished address, with the propensity to thieving and licentiousness, which distinguish the Society Islands; and Captain Beechey's experience showed that they did not scruple to have recourse to violence in order to compass their ends.

There were found among these people some singular traces of an ancient civilisation. There were spacious morais, in the vicinity of which were found colossal statues of stone, about fourteen feet high, representing, though in a rude manner, the upper part of the human form. The present inhabitants, however, are so far from sharing the art by which these were constructed, that they have been continually defacing them till they have almost entirely disappeared, and Captain Beechey found only a few fragments remaining.

Subsect. 5.—*Cook's Islands.*

On the west, also, the Society Islands have, as an appendage, a small and scattered group, which remained without a name, till Krusenstern gave to it that of Cook, its discoverer; a tribute scarcely worthy of so great a name. Cook's Islands are small, low, and of coral formation; they are deficient in water, which is found only in ponds and wells, yet they are tolerably peopled and cultivated. The state of society nearly resembles that in Otaheite, and the missionaries have succeeded in converting a considerable number. Mangeea, Wateo, Whitoutacké, and Rarotoa, are the principal. The people of this last are very civilised, and their chief has lately embraced Christianity.

Subsect. 6.—*Sandwich Islands.*

The Sandwich Islands form as it were a solitary group far north of the general range, and fully 1500 miles distant from both the Mulgrave and the Marquesas. They are ten in number, of which eight are inhabited, and two are barren rocks; but of nearly 7000 square miles which the whole contain, 4,500 are occupied by Owhyhee; and the others are thus comparatively very small. Woahoo, Mowee, and Atooi, are, however, not inconsiderable. The natural aspect of these islands is grand and awful. The mountains of Mouna Roa and Mouna Koa rise completely to an alpine height, and have their summits wrapt in perpetual snow. A party from the Blonde lately reached nearly, but not quite, to the summit of Mouna Koa. The mountain was almost entirely composed of lava, and exhibited numerous traces of extinct volcanoes. They reached, also, on the flank of Mouna Roa, the volcano of Peli, where that phenomenon appears more awful and varied than in any other part of the world. The scene here presented is thus described by Captain Lord Byron:—"Within a mile of the crater, our progress was suddenly arrested by finding ourselves on the edge of a precipitous ledge of seventy feet perpendicular height, clothed with trees and gigantic ferns. A winding but very steep path conducted to the bottom; and, after moving onwards a few hundred yards more, we came to a second ledge, whence we heard the deep roaring of the volcano, like the sounds proceeding from a blast furnace. And now, at every step, we perceive yawning chasms, of unknown depth, from some of which columns of black smoke issuing told of what was going on in the realms of fire below. At length we reached the edge of the crater; but words are totally inadequate to describe the effect produced on us by the first sight of that dark fiery gulf. From its brink, where we stood, we looked down for more than 1300 feet, over rocks of lava and columns of sulphur, between whose antique fissures a few green shrubs and juicy berry-bearing plants had fixed themselves to a rugged plain, where many a cone, raised by the action of the fire below, was throwing up columns of living flame, and whirls of smoke and vapour, while floods of liquid fire were slowly winding through scoriæ and ashes, here yellow with sulphur, and there black, or gray, or red, as the materials which the flames had wrought on varied. Not less than fifty cones, of various height, appeared below, as the funnels of the various operations going on. At least one-half of these were in activity, but it appears that the same are by no means constantly so; nay, that often older cones fall in; and new ones are formed elsewhere in the bottom of the pit. Some eject stones and fragments of rock, while from their dark and sulphur-coloured flanks, lava, and sometimes water, issues: many of the cones emit vapours, which, condensed, form beautiful beds of sulphur; others are distinguished by the wreathed columns of white and black, that indicate steam and smoke, curled round each other by the wind, but never mixing."

Captain King, in 1779, estimated the population of these islands at 400,000; but the American missionaries reduce the number to about 150,000.

The following table shows the area and population of the separate islands:—

Islands.	Area.	Population.
Hawaii (Owhyhee)	4500	85,000
Maui (Mawee)	600	20,000
Oahu (Woahoo)	520	20,000
Tauai (Atooi)	520	12,000
Molokai	170	3,000
Ranai, or Lanai	100	2,000

There are also a few inhabitants on Nühau and Tahaurawa.

The natives are tall and robust, especially the chiefs, who here, as in the other islands, appear like a superior race to the lower orders. As compared with the Otaheiteans, they are of a dark brown complexion; and the females do not display the same softened graces. But these islanders are distinguished above all other inhabitants of the South Sea by difgence and skill in the pursuits of industry. While the Otaheitean, in voluptuous ease, subsists chiefly on the spontaneous bounties of nature, the Sandwich Islander has carefully improved almost every spot susceptible of cultivation. The taro root, on which he chiefly subsists, requires a soil not only tilled, but inundated; the fields on which it grows, therefore, are enclosed by stone fences, and watered by irrigating canals. In manufactures, canoe-building, and fishery, these islanders display the same active industry. Their general conduct is open, honourable, and friendly; yet they are easily kindled to fierce resentment, especially by any wrong against their chiefs. Such a cause led to the disastrous conflict which terminated in the death of Cook; and the circumstance of one of their great men being fired at from a West India vessel led afterwards to the murder of Messrs. Hergest and Gooch of the Dædalus. The people have been peculiarly distinguished by their efforts to raise themselves to the level of European arts and civilisation. In this career they were first led by Tamahama I., who, about the year 1794, with the assistance of Vancouver, and of Young and Davis, two English seamen, began to form a small navy, which soon amounted to twenty vessels, some of seventy tons burden: he had disciplined a small body of troops in the European manner, and erected a fort defended by cannon. His son, Riho-Riho, in 1819 embraced Christianity, and abolished idolatrous worship. Still farther to promote the improvement of the country, he and his queen paid a visit to England, where they were received with the utmost courtesy; but, unfortunately, both were seized with contagious fever, and died. His son being a minor, political influence was shared by several female relations and chiefs; but the same system has been, on the whole, maintained; and though one queen endeavoured to renew the festive and tumultuary rites of the ancient superstition, the chiefs refused to concur.

For some time scarcely any religion was substituted for the one abolished; but missionaries from the United States have since made great efforts for the instruction of the natives, and have established an extensive influence. Lord Byron and other maritime visiters accuse them of having established too austere a system, of proscribing innocent amusements, and requiring a long daily attendance at church, which interferes with the pursuits of industry; but these complaints, prompted by the opposite character of the two parties, seem exaggerated, and missionary influence undoubtedly tends, on the whole, to advance the progress of civilisation. Schools have been established, in which a considerable proportion of the population has learned to read; churches have been erected; a printing-press has been for some years in operation; several school-books, and a great part of the bible, have been printed in the language of the natives; the useful arts have been introduced; and a gradual improvement in the morals and manners of the people has taken place. The commercial activity already noticed prevails chiefly at Honororu, or Honolulu, in the island of Oahu, which contains about 5000 inhabitants, nearly a hundred of whom are Anglo-Americans and English. Some of the houses are built of stone; and the signs of "the Britannia, the Jolly Tar, the Good Woman, billiards, and an ordinary at one o'clock," strikingly testify the transplantation of European habits into this remote and lately savage region. In 1831, 118 ships of the burthen of 37,179 tons touched here, of which 83 ships of 26,148 tons were Americans. A great number also touched at Maui on the island of that name, which lately has been preferred by many as a place of refitting. At the same time there belonged to the islands 24 ships of the burthen of 2,630 tons, ten of which ships were the property of the natives.

Subsect. 7.—*The Mendana Archipelago.*

The cluster of islands which is now commonly called the Archipelago of Mendana consists of two groups, named the Marquesas and the Washington Islands. The former, long the only part known, was discovered in 1596 by the Spanish navigator, Alvaro Mendana, who gave to them the name of the Marquis of Mendoza, then viceroy of Peru. After being long forgotten, they were rediscovered and examined with considerable attention by Cook. The more northerly group was first visited, in 1791, by the American Captain Ingraham, and then in 1792 by Marchand; but the American's discovery being prior, his name of "Washington Islands" has been generally recognised. They were examined in 1804 with some attention by Krusenstern, and have since been frequently touched at by British and American ships. These islands are elevated, and the mountains, rising to the height of 4000 or 5000 feet, are extremely broken and craggy, while a sandy belt extends along the sea; but the intermediate valleys are singularly fertile and picturesque, copiously watered by streams which descend in numerous cascades, one of which, in Nukahiwa, being 2000 feet high, is among the most beautiful in the world.

The population has been estimated variously, and, indeed, extravagantly, since Forster assigned 100,000 to the mere group of the Marquesas. The more careful observations of Krusenstern and other recent navigators has reduced this number to 18,000: the same is assigned to Nukahiwa, or Federal Island; while the other Washington Islands may raise the whole to somewhat above 40,000. Nature, in providing the people with the bread-fruit, the cocoa-nut, and the banana, affords them subsistence almost without labour. They add only a few plantations of yams and taro, and reserve their chief labour for the plant which yields the intoxicating liquor of *kawa*, and for that from which their mats are fabricated. The domestic animals are hogs and poultry, the dog being wanting. The men of these islands are described as tall, robust, and the most finely formed of almost any known race. They would not, it is asserted, lose by a comparison with the most perfect models of ancient sculpture. Their complexion, even, is little darker than that of Europeans; but it is visible only in the youths, for the tattooing, practised over all the South Sea, is carried here to such a pitch, that the skin of the adult becomes the mere canvas of a picture. The operation begins at twelve or thirteen, but it is not till thirty or thirty-five that their person is entirely covered. The women have handsome features, but their gait is slouching and their limbs ill-formed: they have an air marked by effrontery, and hold virtue in scarcely any estimation. The character of these islanders displays the usual contrasts of savage life; in their ordinary intercourse they are friendly, open, and engaging; but they carry on war with the most deadly ferocity, piercing the brain of the vanquished enemy, and eagerly drinking his blood. The islands are divided among a number of independent chiefs and tribes. The missionaries have made some attempts to communicate Christianity and civilisation, but hitherto with little success. The different islands have received from their successive visiters rather a perplexing variety of names. Ohivahoa, the largest of the Marquesan group, is called also Santa Dominica; to which may be added the more frequented one of Tahuata or St. Christina, and Tatuiva or Magdalena. The Washington group, besides its principal one, Nukahiwa, contains Wahuga or Washington, and Wapoa, called also Adams or Trevenion.

Subsect. 8.—*Friendly Islands.*

The Friendly Islands, a name which, notwithstanding the examples of Hassel and Balbi, we are unwilling to exchange for that of the Tonga Archipelago, forms a fine and interesting group, considerably to the west of Otaheite. With a single exception, they present nothing of that lofty aspect, or those symptoms of volcanic origin, which distinguish the large islands hitherto described. They consist of a basis of madrepore, raised apparently from the bottom of the ocean, by the well-known action of insects; and the coasts are encircled by dangerous coral reefs. The ground rises not in general more than 20 or 30 feet above the sea; nor do the highest hills exceed 100 or 150 feet. Hence they are not, like the high islands, irrigated by copious streams; and the people are in many places obliged to procure an inferior water from wells or ponds. Yet the soil is almost throughout exceedingly rich; and the natives carefully improve it, keeping their plantations in excellent order, adding to the spontaneous abundance of the banana and the bread-fruit by the careful cultivation of the yam and other roots. These islands thus maintain a population which, though evidently overrated by Forster at 200,000, may probably be estimated in the Tonga group at 50,000, and in the others at 30,000 or 40,000. In the construction of their vessels they are scarcely equalled by any other natives of the South Sea. The double canoes, composed of pieces sewed together, are 60 or 70 feet long, and about 5 broad, and the two parts, 6 or 7 feet asunder, being united by a platform, render the vessel spacious and commodious, while it is capable of navigating with safety even distant seas. The natives of the Friendly Islands (*fig.* 930.) are of a dark brown complexion; the men are muscular, with broad shoulders, and the women are often deficient in delicacy of form and features; but many of both sexes present models of almost perfect beauty, and their expression is generally mild and agreeable. Their character has been drawn in more flattering colours than that of almost any other people of the South Sea. The name given by Captain Cook expresses his opinion of their disposition. They seem to possess the amiable qualities of the Otaheiteans, with a smaller measure of their faults. If neither their honesty nor the virtue of their females could withstand the temptations of European intercourse, among themselves both appear to be exemplary; and their domestic attachments are warm. Yet a more intimate observation has discovered among them all the darkest features of savage life. An European vessel, having fallen into their power, was plundered, and the crew murdered with merciless cruelty. Their wars are carried on with the utmost ferocity. They have a complicated system of superstition, worshipping upwards of 300 *eatooas*, or deities, which preside over the sky, the rain and other elements, and assume often the forms of serpents, lizards, and dolphins. They believe also that the British have a national god, whom they admit to be wiser and more powerful than theirs, from the fine cloth and ships he has taught them to make. A party of missionaries landed from the ship

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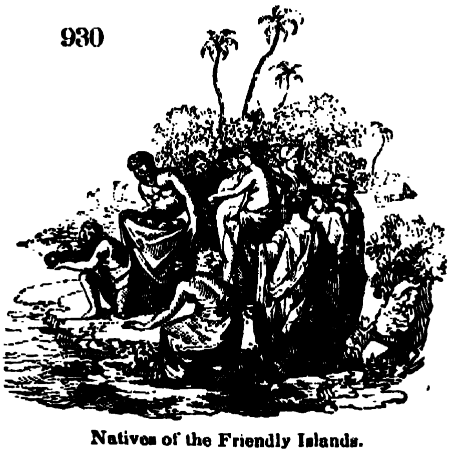

Natives of the Friendly Islands.

Duff were at first well treated, and the chiefs, particularly Finow, showed a great interest in regard to European arts, and, among others, that of writing. The natives, however, having imbibed the superstitious idea that a pestilential disease which desolated the islands owed its origin to these strangers, put several to death; others perished in civil wars; and though a small party still remained, they did not appear to have made any material impression, either in regard to religion or civilisation. In 1821, however, the Wesleyan Missionary Society established a mission here, and seem to have met with some success. The Friendly Islands are very numerous: including those of all sizes, they are supposed to be not fewer than 150. The largest, however, is not above seven miles in length. The principal in the Tonga group are, Tongataboo, Eooa, and Annamooka, called by Tasman, their first discoverer, Amsterdam, Middleburg, and Rotterdam. In another group is Tofooa, the only mountainous island, containing a volcano, which manifests some degree of activity. Lifuka, the principal of the numerous group of the Hapai Islands, was long the residence of a chief who held sway over the others. The Wesleyan Missionary Society have lately commenced a mission here, with flattering prospects. Vavaoo, in another cluster, is the second in size of the whole archipelago, and one of the most fruitful.

Subsect. 9.—*Fidji Islands.*

The Feejee, Fidji, or Viti Islands, situated to the north-west of the Tonga group, are so closely contiguous, that they may properly be considered as forming part of the same archipelago. They were partially discovered first by Tasman, afterwards by Cook, and have been more fully observed by Bligh and some American vessels; yet they are still very imperfectly known. To this chiefly it seems owing that they have not excited equal interest with those just described; for they are considerably larger, and equally fertile and populous. Paoo, or Tacanova, is about fifty leagues in circuit: it belongs to the class of high islands, being traversed by mountainous ridges, though several members of the group are low and encircled by coral reefs. They abound in the usual Polynesian products, particularly in sandal-wood, which American ships carry off in considerable quantities for the market of China. The people, though not negro, are of a darker complexion than those of the Tonga Islands. Yet they do not appear to rank lower in arts and civilisation; their canoes, their cloths and mats, are equal or superior to those of their neighbours. Some whom D'Entrecasteaux saw in Tonga appeared to him to have more character and intelligence than the natives of that island. The deep ferocity with which they are branded may, perhaps, arise mainly from the light under which they have been viewed, and their being known chiefly through the report of their enemies. They are certainly a martial people. On going to battle, they paint their faces; and having bored the septum of the nose, stick into it two large feathers. Their name is terrible to the Tonga Islanders, with whom they wage frequent war. They were lately subject to Finow, but have made themselves independent; and the power is now shared among several individuals. Besides Paoo, Nawihi and Meywoolla are of considerable dimensions. The London Missionary Society have a mission on the island Lageba.

Subsect. 10.—*Navigators' Islands.*

The Navigators' Islands may also be considered as belonging to the Friendly Archipelago, of which they compose the north-east portion. They were partially seen by Mendana, then by Schouten, afterwards more fully by Roggewein, who gave them the name of Bauman's Islands, changed since by Bougainville to Navigators', which does not seem more applicable to these islanders than to the other Polynesians; yet the name being now established, it will, perhaps, be vain to attempt to change it to Hamoa. The interior is elevated, and the rocks seem to exhibit marks of volcanic origin; but the mountains are clothed to the summit with lofty trees, and the wooded valleys beneath, watered by numberless streams and rills, present an enchanting landscape. These trees, bearing the usual nutritious fruits, maintain the natives in plenty, which is augmented by the great number of dogs, poultry, and hogs, of which last Pérouse purchased 500 from two islands. The men are of almost colossal height, and finely formed; their complexion nearly white, though in the adults completely concealed by tattooing. In the construction of their houses and canoes, they are at least equal to the other Polynesians; and their cloths are woven with a skill not equalled in Otaheite. Respecting their moral qualities, the reports have been very opposite. Roggewein paints their friendly and courteous disposition in terms as flattering as have been applied to the most engaging of the South Sea islanders; while Pérouse represents them in the darkest colours. He had, indeed, too good reason; since a party, composed of Langlès, captain of the Astrolabe, Lamanon the naturalist, and nine others, who had landed on Mauna, were surprised, massacred, and their bodies treated with the most dreadful indignity. Yet, notwithstanding the excellent character of the French commander, the impulses which rouse vindictive passions in the savage breast are often so mysterious, that it might be rash to draw a sweeping inference from this catastrophe. Since its occurrence, however, these islands have been rarely visited. Pola, Oyalava, and Mauna, are the largest in the group, and may rank with the most considerable in the South Sea.

Subsect. 11.—*Carolines.*

The Carolines, or New Philippines of some writers, form a very extensive and numerous range, the most western of Polynesia, and extending for upwards of 30 degrees, or about 2000 miles. They lie north, while the Society and Friendly Islands are south of the equator. A few of them are high and peaked, though they do not attain the alpine elevation of those of Eastern Polynesia, being supposed not to rise much above 3000 feet: all the others are low and of coral formation. They have been among the latest and most imperfectly known in the South Sea. They were discovered, first in 1686, by Francisco Lazeano, driven thither by a storm, from the Ladrones, who gave the name after Charles of Spain. Since that time there has been a considerable intercourse between the two groups; and the shipwreck of Captain Wilson, in 1783, made us acquainted with the Pelew Islands. The French commanders Freycinet and Duperrey have recently made valuable observations on these islands. In productions they resemble the rest of Polynesia, except that the bread-fruit abounds only in the eastern islands; and the hog is unknown unless in the Pelew group, where it has been introduced by Europeans; so that fish forms almost the only animal food. They are situated in a most tempestuous ocean, exposed to violent hurricanes, one of which often sweeps away the entire produce of an island; yet the people are still more at home on the waves than even the rest of the South Sea islanders. Besides drawing from them a copious supply of fish, they equip large barks with sails, and by the aid only of the stars navigate across these stormy seas to the Ladrones. There they obtain iron and some European manufactures, part of which is afterwards exchanged with the more easterly islands for bread-fruit. Hogoleu, Yap, Walan (first visited by Captain Duperrey, and found possessed of a very considerable degree of civilisation), and Pounipet, discovered by the Russians in 1826, are the only high islands, and the largest in the archipelago. The group containing Ulea, Lamourzek, and Oulimirak, though composed only of low coral islands, is distinguished by the skill of the natives in navigation. Their vessels are superior to those in the rest of the archipelago; and it is by them chiefly that the communication with the Ladrones is maintained, by means of a small annual fleet which rendezvouses at Lamourzek.

Subsect. 12.—*Central Archipelago.*

This name has been applied, from their central situation, to a great number of groups of low islets or attolons, separated from each other only by bays and channels of no great width. Lord Mulgrave's Islands form a group so closely adjoining on the east to the Carolines, that they can scarcely be considered otherwise than as a branch of that great archipelago. They were first found out by Captains Marshall and Gilbert, in a circuitous voyage from Port Jackson to Canton; afterwards more fully examined, in 1817, by Kotzebue, who discovered the important isles of Radack and Ralik. They consist of a crowd of low coral islets, raised, like the others, by a peculiar process, from the bottom of the ocean. The interior rises into verdant hillocks, but the immediate coast is sandy; water is found only in deep wells, and is wanting in some islands, though others are irrigated by streamlets. Hence no luxuriant variety of vegetation is displayed, and the chief dependence is upon the pandanus, whose hill-formed trees, yielding a juicy aromatic fruit, are seen growing on the most arid shores. The cocoa-nut, in scanty supply, is employed only for ropes and sails. The islands are entirely destitute of land animals except rats, which are numerous, and sometimes eaten as food. They are peopled up to the limited resources which nature affords. The natives are described under more amiable colours than almost any other in the South Seas, as friendly, courteous, and amiable; free from the thievish propensities and dissolute conduct which are there so general. The particulars must be counted, not by islands, but by groups; those of Radack and Ralik, discovered by the Russians, being the most important. Those of Gilbert, Simpson, and Bishop, farther to the south and east, have received their names from British discoverers.

Subsect. 13.—*Pelew Islands.*

The Pelew Islands, or Palaos, form a western branch of the Caroline Archipelago, not materially differing in character. They are of moderate elevation, well wooded, bordered by dangerous coral reefs. They were mentioned near the beginning of last century by Cantova and the Spanish missionaries; but they became first an object of interest in Britain, by the shipwreck, in 1783, of Captain Wilson in the Antelope, when he was received, and his wants supplied, with the most generous kindness. Abba Thulle, the king, with an enlightened desire to improve his people by a knowledge of the arts and attainments of Europe, sent along with the captain his son the prince Lee Boo, who delighted the society of the metropolis by the amiable and intelligent simplicity of his manners; but, unfortunately, this young prince was seized with small-pox, and died. Keats, from the report of Wilson, drew up a narrative of the voyage, in which the Pelew Islanders are represented under the most pleasing colours. It is remarkable, that the British navigators who since that time have frequented these shores, with the view of procuring tripang and other commodities for the Chinese market, have drawn a completely opposite picture, representing these people as displaying all the bad qualities incident to savage life; and this agrees with the early report of Cantova. Man in this social stage appears very variously, according to the point of view in which he is seen. Even Wilson witnessed an inhuman massacre of prisoners taken in battle. Cantova probably heard them described by tribes with whom they waged war; and the modern navigators may not have always acted in a manner calculated to develope a friendly disposition. They have certainly added very little to our knowledge of the group, of which Babel-thu-up, Coror, Emungs, and Pellelew are the principal. The small island of Oroolong was presented by Abba Thulle to the British, but it has not been occupied.

SUBSECT. 14.—*Ladrones.*

The Ladrone or Marianne Islands form an early known and celebrated group, almost immediately north of the Carolines. It was discovered by Magellan in the first circumnavigation of the globe in 1512. He gave it the name of Los Ladrones, from the thievish propensities of the natives; but the Spaniards, who, finding it in their way from Mexico to the Philippines, formed a settlement there, substituted the name of the Mariannes, in honour of their reigning queen. Most of the early circumnavigators, Cavendish, Dampier, Anson, as they began by proceeding to a high latitude along the American coast, when they came to cross the Pacific, found those islands in their way; while Cook and his successors, seeking discoveries in a different direction, passed direct from the Friendly Islands into Australasia; but several late French and Russian expeditions have taken the route of the Mariannes. By some navigators, and particularly by Anson, they were celebrated as completely a paradise; and though the impression was evidently much heightened by the previous long and exhausting voyages, they seem really to possess all the advantages of the most favoured Polynesian groups. They are moderately elevated; but the mountains in the centre do not rise much above 2000 feet, and from them the surface descends by terraces to the shore, which, like others in these seas, is begirt with dangerous coral reefs. It is covered, for the most part, with the rich vegetation peculiar to these climates; and though Europeans at first found the islands destitute of any useful quadruped, the Spaniards have introduced with success not only those of Europe, but the guanaco from Peru, and the deer from the Philippines. The natives in the three principal islands, estimated, on the discovery, at 40,000, were a remarkable people, who had, in some respects, made greater progress in the arts than the other South Sea islanders. They were, indeed, very inferior to the Otaheiteans in clothing; the men being almost naked, and the women wearing only a small apron; and their household furniture, though neat, was very limited: but their agriculture and canoe-building were fully equal; and they had the remarkable superiority of possessing a rude species of coin, and of having erected spacious structures dedicated seemingly to religious purposes. These were composed of an inner and outer range of pyramidal columns, crowned by a semicircular dome; the whole composed of sand and stone, cemented together and covered with gypsum. Civilisation was also indicated by the high rank held by the female sex, who were exempted not only from oppressive labour, but from the degradation connected with the practice of polygamy. The wife, if slighted, could return to her parents, carrying with her the whole of the household goods; while, if she herself proved unfaithful, the husband might indeed kill her seducer, but was obliged to send her home uninjured. When the Spaniards, in 1678, formed an establishment in these islands as a place of refreshment for the Manilla galleon, they endeavoured, as usual, to impose their sway and their religion on the natives, who strenuously resisted both; and in the struggle the greater part of them were exterminated. A few found refuge in the Carolines; others fell victims to pestilential diseases; and the small remnant can scarcely be distinguished from their conquerors. Tinian, so celebrated by Anson, is overgrown with forests, amid which the ruins of its spacious edifices can with difficulty be traced. The population of the three principal islands was found, in 1816, to consist of only 5389 individuals, composed chiefly of Spaniards, Tagalas from Manilla, and Indians from Peru. Agrigan, the capital, in the island of Guam, contained 3115 of this number.

CHAPTER III.

ISLANDS IN THE POLAR SEAS.

To complete the description of the detached and insular portions of the globe, there remain still a considerable number of large islands, situated in the stormy seas by which the two poles are encircled. Although these regions be dreary, desolate, and almost uninhabited, they present features which strongly attract the interest and curiosity of mankind, and have induced many daring adventurers to explore and navigate these remote coasts and seas.

Sect. I.—*General Outline and Aspect.*

The Polar Islands are situated partly in the seas round the North, partly in those round the South Pole. The former, lying within the Arctic Circle, are by much the most numerous and extensive. Commencing from the eastward, we find Nova Zembla, reaching northward from the boundary of Europe and Asia; Spitzbergen, called sometimes East Greenland, the most northern land yet visited; West Greenland, a mass of territory possessing almost the magnitude of a continent, and long supposed to be part of America, from which, however, it now proves to be entirely disjoined; lastly, the range of the Georgian Islands, discovered by Captain Parry, of which the principal are Cornwallis, Bathurst, Melville, and Banks's Land, the boundaries of which last are yet unknown. In the Antarctic Ocean, on the contrary, where a new continent was long sought and expected, no extensive body of land has yet been discovered; but there are some considerable islands, or groups, particularly New Georgia, New South Shetland, and the New Orkneys. All these tracts are either insular, or broken by deep bays and sounds, formed, probably, by the violent storms and currents which beat continually against their shores, and which are supposed, in many cases, to penetrate entirely across the most solid masses of land. The aspect of these regions is usually mountainous, presenting long and bold promontories to the stormy seas by which they are surrounded, and often also enclosing spacious and secure harbours.

The air and elements, which, in other parts of the world, are only accessories, form here the leading objects, giving their gloomy stamp to the whole region. Snow falls occasionally in the very heart of summer, and before the end of autumn it begins to descend in a continued succession of showers, till every object is buried beneath it, and nature exhibits only a monotonous surface of dazzling white, which remains, according to the latitude, for six, seven, or eight months. At the same early period ice begins to bind, first the streams and fresh-water lakes, then the enclosed bays and arms of the sea, till at length it fixes its chains even upon the broad surface of the ocean. In June and July, indeed, when the sun becomes vertical, and constantly above the horizon, the icy masses dissolve, and burst asunder often with a tremendous crash; but some portions, more firmly consolidated than the rest, remain unmelted, and produce remarkable phenomena. In particular situations on the coast, the ice of successive years is piled into glaciers, which rise often to a great height, till, their foundation being undermined by the waves, they descend into the water, and are carried out by wind and tide into the open sea: there they form to the mariner a bright and fearful spectacle (*fig.* 931.), reflecting the rays of light in varied and beautiful tints, but threatening by their contact to dash his vessel to pieces. Sometimes they are borne by winds and currents to a great distance, and even into lower latitudes, where they appal the navigator sailing through the temperate seas. In other cases portions of the frozen surface of the sea, remaining firm, while all around them is melted, become fields or *floes*, which float through the deep, and, being often driven by the tempest with terrific violence, cause instant destruction to the stoutest vessel.

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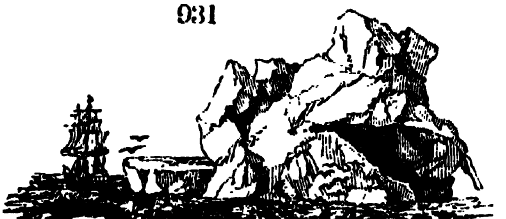

Ice Island.

The privation of light forms a singular and gloomy circumstance in the arctic abodes. For two, three, or four months, the sun never appears above the horizon; one continued night reigns. Yet there are not wanting objects to cheer this lengthened gloom, and to give a bright and even fairy splendour to the polar sky. The moon and stars shine through the clear frosty air with peculiar brightness; haloes and other luminous meteors are more frequent and more vivid than in lower latitudes; and, above all, the aurora borealis fills the arctic atmosphere with its coruscations of playful light. The long day of summer, during which the sun never sets, can scarcely be named as a compensation for the wintry gloom; yet, during a period of spring and autumn, when it wheels a perpetual circle immediately above the horizon, it paints the skies with hues more brilliant and varied than those which adorn those of any other climate.

Sect. II.—*Natural Geography.*

The Polar regions are chiefly distinguished by the almost entire absence of those productions which come under the head of natural history. The few which are found there are common to them with the continental countries, already described, that are situated in very high latitudes,—Sweden, European Russia, Siberia, the northerly regions of America, and the most southern parts of that continent.

Sect. III.—*Historical Geography.*

These regions were discovered much later than any other, and were, indeed, till a very recent era, entirely unknown. The only ancient navigator that appears to have turned his efforts in this direction, was Pytheas of Marseilles, who steered his daring sail towards the extreme northern boundaries of the earth. But when he reached Thule, which we conceive to be Shetland, the dreary aspect of nature, the gloomy mists in which he was involved, and the sinister reports of the natives, led him to believe that he had approached as near as mortal could to that formidable limit. Some learned moderns have imagined Thule to be Iceland, but, as we apprehend, without any good foundation.

During the middle ages, the Danes and Swedes, under the terrible appellation of Northmen, undertook, on a great scale, distant voyages, and filled with their fleets all the seas of Europe. Their object, however, was not discovery, but first plunder, and then conquest; and their direction was towards the rich and smiling regions of the south, not to shores still more bleak and dreary than their own. In 861, however, Nadodd, a pirate, discovered Iceland, whither a colony, composed of exiled Norwegian chieftains, was soon after sent. These remote settlements became even seats of science, affording a refuge to learned men amid the distracted state of Europe during the feudal ages. Colonies from Iceland settled on the coast of Greenland. Several citizens of Venice, during the flourishing era of that republic, particularly Zeno and Quirini, appear to have penetrated into the north seas, where they encountered severe shipwrecks; but they did not materially extend the range of knowledge in that direction.

The discovery of the East and West Indies, which took place in the end of the fifteenth century, was the event which chiefly impelled modern nations into the career of northern discovery. It might at first view have been expected that it would have produced an opposite effect, and that the brilliant field thus opened might have diverted the attention from so forbidding a sphere. It happened, however, that the continents of Africa and America were so interposed, as to render it impossible for Europeans to sail to the East Indies unless by very circuitous southward routes. But if a passage could have been discovered along the north of Asia or America, it would, in a most remarkable degree, have facilitated the intercourse with those remote and opulent regions. The spirit of maritime enterprise was then at its height; the British merchants fitted out successive expeditions, which, under the guidance of illustrious naval commanders, encountered the most formidable dangers in unknown and tempestuous seas, in fruitless efforts to attain this important object. The first attempt, under Sir Hugh Willoughby, to follow a north-easterly route along the coast of Asia, met with the most disastrous issue. Being obliged to winter on the coast of Lapland, the whole crew were frozen to death. This did not deter from subsequent expeditions, under Hudson, Burroughs, and others; and by the Dutch, under Barentz; but none of these were able to reach far beyond Nova Zembla. Contemporaneous with these voyages were others still more frequent, having in view to pass along the northern coast of America, which it was long hoped might terminate at a lower latitude than it actually does. Frobisher first in this direction undertook three voyages, in which, however, he did not penetrate beyond the passages leading into Hudson's Bay. Davis afterwards conducted an equal number, in the course of which he discovered the straits which bear his name, opening into the spacious inland sea which has since been so much frequented. Others followed; and Hudson, in discovering the bay named after him, found a disastrous termination to his career. But the most important of these expeditions, in the present view, was that of Baffin, who, in 1616, performed the circuit of the wide expanse called Baffin's Bay, though he did not discover the passage thence into the Polar Sea. Meantime the daring spirit of British mariners had conceived the design of reaching India by a very different course,—by steering direct for the pole itself, and thence downwards upon the eastern seas; the shortest of all routes, if, as was asserted, it was not closed by barriers of ice and perpetual snow. Hudson, Baffin, and Fotherby distinguished themselves in this bold attempt; but they were not able to reach nearer than ten degrees from the Pole. They made, however, the discovery of Spitzbergen, or East Greenland, of some smaller islands, and of the eastern coast of West Greenland.

These voyages, though they failed entirely as to their immediate object, led to an important result, the establishment of the northern whale fishery, which has become a considerable branch of modern industry. It was for some time almost monopolised by the Dutch, who had even formed a large establishment on the coast of Spitzbergen; but circumstances have now thrown it almost entirely into the hands of Britain. The observations made during the annual voyages, undertaken for this purpose, ably collected by Mr. Scoresby, have made us acquainted with various striking phenomena which nature presents on the seas and shores of the arctic world.

On the opposite side of the globe, the Antarctic Circle encloses a region of precisely similar character, which remained to a still later period entirely unknown. The extended sphere of modern navigation, however, has brought it also at last within the range of discovery. An extraordinary interest was, for a considerable time, excited by the belief that, in this distant region there lay a great southern continent, supposed by some to equal in extent and fruitfulness any of those already known. Captain Cook's second voyage was fitted out amid the most flattering anticipations of such a discovery. But though that great navigator made some very important observations on the large islands composing Australasia, he ascertained the fact that in any temperate or even habitable latitude no such continent existed. The extreme intensity of cold was even found to commence at a much lower latitude than in the northern hemisphere. Several considerable islands have recently been discovered, though almost beyond the range of life or cultivation. In these seas, also, room has been found for the establishment of a whale fishery, which, notwithstanding the great distance, is carried on with considerable advantage.

The hope of a north-west passage, after sinking nearly into oblivion, was revived in the present age with undiminished ardour, and prosecuted with signal displays of naval enterprise and talent. The efforts and sufferings of Ross, Parry, and Franklin, have not, indeed, fulfilled the hopes with which these navigators were sent out, but proved, rather, that such efforts must be finally given up. They have, however, made important geographical discoveries, delineating the northern outline of America, before most erroneously laid down, and exhibiting large islands lying in the Polar Sea, to the north of that continent.

SECT. IV.—*Political Geography.*

The few tribes which occupy these desolate coasts are scarcely united in any form of political society. The little that occurs to be said on this subject will be found in the chapter on their civil and social state.

SECT. V.—*Productive Industry.*

The produce of the arctic world is of a very peculiar nature. A territory thus buried for the greater part of the year in ice and snow, with only a transient and imperfect vegetation, and where the few animals that appear during the summer gleam take an early flight into milder climes, might at first view seem incapable of yielding any thing that can minister to the use or comfort of civilised man. But while the land is thus dreary and barren, the sea and its shores teem with an inexhaustible profusion of life. The finny tribes, which, feeding on each other, do not require any vegetable support, exist here in greater multitudes, and of larger dimensions, than any other animals, either in the temperate or tropical climates. Provident nature has, in particular, fenced them against the extreme intensity of the cold by a thick coating, of a coarse but rich oleaginous nature, termed blubber, the oil extracted from which is subservient to the most important economical purposes. The substance called whalebone, being peculiarly strong and elastic, affords a material of several manufactures.

The seal, the walrus, and several other amphibious animals, are invested with the peculiar coating above described; but by far the greatest abundance of it is found in the whale. The Balæna mysticetus, or great Greenland whale, is the most powerful of animals; and to attack and slay him is one of the boldest of human enterprises; yet it is undertaken with alacrity by hardy tars. For this purpose, fleets of large ships, well equipped with boats, lines, harpoons, and spears, are annually sent into the northern seas. There, each vessel, with all its boats, is constantly on the watch; and when the alarm is given of a whale being descried, all fly to the onset. The first object is to strike into the animal the sharp instrument called the harpoon, which has a long line attached to it. When the whale feels himself struck, he usually plunges deep into the water, and runs on to a great distance under it. The line must then be freely let off, otherwise he will drag the boat and crew under water after him. If it is entangled or exhausted, it must instantly be cut; and then the whale, line, and harpoon are all lost. After a certain interval, the animal is obliged to come to the surface, in order to respire. The boats then crowd around him, and the sailors pierce him with lances, till he is completely exhausted, and, after another short descent, and some violent convulsive movements, he expires. The carcase, being attached to the sides of the ship, is flensed, or the blubber cut away, and stowed in casks; when, the whalebone being also extracted, the refuse is allowed to sink to the bottom. Great dangers are encountered in this trade, partly from the whale, one lash of whose tail has been known to throw a boat in the air, and almost cut it in two; and from the fields and mountains of ice, which, when impelled violently by the wind, reduce the stoutest vessel in a few minutes to a complete wreck, when the crew are obliged to seek safety on its frozen surface. Not unfrequently, too, about the close of the season, a ship is completely imprisoned in ice, and the sailors are compelled to abandon her, and seek, in boats, or over the ice, for another ship or the nearest land. The Dutch estimated that, on an average, four vessels in the hundred annually perished. The British loss has been generally still more severe, especially since the fishery was chiefly carried on in Davis' Straits. In 1819, there were lost ten ships out of sixty-three; in 1821, eleven out of seventy-nine; and, in 1822, seven out of sixty. In 1829, the loss was only four out of eighty-nine; but the year 1830 was the most disastrous ever known in the annals of British fishery: out of ninety-one ships sent out, nineteen were entirely wrecked, and most of the others severely shattered. One single mass of ice was impelled by the tempest with such violence, that, by its shock, four of the finest vessels, strongly built and completely equipped, were, in a quarter of an hour, converted into floating fragments. Fortunately these dreadful wrecks took place without the loss of a single life.

The commercial products of this fishery are considerable. According to tables published by the Dutch, in the course of 107 years, ending with 1778, they sent out 14,167 ships, which took 57,590 whales, the produce of which, in oil and bone, was 18,631,292*l.*, or 175,000*l.* annually. The British fishery, during its most prosperous period, very much exceeded this amount. In the five years ending 1818, it yielded an average of 68,940 tuns of oil and 3420 tons of whalebone; which, as the oil was then valued at 36*l.* 10*s.*, and the bone at 90*l.*, formed an amount of 2,834,110*l.*, or 566,822*l.* per annum. In the peculiarly fortunate year of 1814, it exceeded 700,000*l.* Since that time, the use of gas, and the substitution of rape and other oils in the woollen manufacture, has considerably reduced the demand and consequent production. In the year 1829, which may be considered as the latest average one, it was

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It may be observed, that the price of whalebone has nearly doubled since 1818, the demand for it continuing the same, while the supply, in consequence of the diminished consumption of oil, has been greatly reduced. Generally speaking, the fishery is, for the proprietors, a very speculative and adventurous trade: according to the skill of the officers, or to mere accident, a ship may return *clean*, or empty; or it may bring home a cargo worth 5000*l* or 6000*l.*; an instance has occurred in which the value amounted to 11,000*l.* The shipwrecks, which are so frequent, involve at once the failure of a cargo and the entire loss of a vessel worth 6000*l.* or 8000*l.* The loss sustained by the wrecks in 1830 was estimated at upwards of 140,000*l.*

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Sect. VI.—*Civil and Social State.*

Human society, in this bleak extremity of the earth, exists in the rudest form, and on the most limited scale. The ungrateful soil refuses to man any support; but the huge amphibia, particularly the seal and the walrus, with which the shores are crowded, being attacked with a skill and diligence prompted by necessity, yield a precarious yet not scanty subsistence. All the arctic regions are peopled by that peculiar race called Esquimaux, whom we have already described, on the authority of Captain Parry, in our survey of the northerly coasts of America. The greater number of them, not belonging to America, are found on that extensive mass of land called West Greenland. The dominion of this region is claimed by Denmark, which maintains along the shore a few scattered settlements, occupied each by a handful of Danes, who often intermarry with the natives. They employ themselves in capturing the seal, and in exchanging with the people some European goods for skins, blubber, feathers, and the tusks of the narwal. A vessel comes annually from the mother country, bringing provisions and the materials of trade, and receiving the above articles. A few missionaries, chiefly Moravian, have employed their pious labours in the conversion of the natives; but their success has been limited.

Sect. VII.—*Local Geography.*

Subsect. 1.—*Arctic Regions.*

The local details of the arctic regions are extensive and scattered, but do not present many peculiarities which will require long to detain our attention. We shall begin with the Georgian Islands, discovered by Captain Parry in the sea to the north of America.

Melville Island, the most westerly of these, upwards of 100 miles both in length and breadth, and in latitude 75° N., is memorable as containing the spot where Captain Parry spent two years, and braved with success the extremest rigour of an arctic winter. The sun disappeared on the 4th of November, and was not seen till the 3d of February following. During this interval, land and sea were alike covered with a monotonous surface of snow, and the thermometer averaged about 60° below the freezing point. Yet the English officers, when duly clothed, and when there was no drift, were able to walk in the open air for two or three hours a day; and, by judicious precautions, their health and that of the seamen was perfectly preserved. In May the snow begins to melt, and in June it covers the country with pools; but it is not till August that the sea becomes open; and, before October, winter has again commenced. No inhabitants were found here, or on any of this range of islands. The only animals which appeared during the winter were a pack of hungry wolves, which hovered round the British vessels in hope of plunder; and it was not till the middle of May that the hunters met with some ptarmigans, and saw the footsteps of deer. Vegetable productions were few and short-lived.

A succession of islands extend eastward from the one now described; first the small one of Byam Martin, then that of Bathurst, almost equal to Melville; and next Cornwallis, also of considerable size. Only the southern coasts were seen by Captain Parry, as he sailed along; and their aspect appears closely to resemble Melville Island. Cornwallis is separated by Wellington Channel from an extensive coast, which received the name of North Devon, and reaches to the shores of Baffin's Bay; but whether it forms a continuous tract with Greenland, or is composed of one or more islands, remains yet to be discovered. The coasts opposite to those now described, which appeared to Captain Parry to be insular, have been shown to be so by Captain Back.

Greenland, long supposed to be part of America, till Captain Parry ascertained its complete disjunction, forms the largest known extent of land not belonging to the four continents. From Cape Farewell, in lat. 60°, it stretches northward for the ascertained length of 19 degrees, with an indefinite extent beyond; while the general breadth is about 35 degrees of longitude. It remains uncertain, indeed, whether several of the deep inlets which indent the coast, may not penetrate entirely across; yet they would thus very slightly break the vast continuity of land. But this wide region is, of all others, least valuable to man, producing scarcely anything which can minister to his comfort, or even existence. Its aspect is, throughout, of that dreary character described as belonging to the arctic world. It is claimed by Denmark, which, as already mentioned, has formed along its western coast several small settlements, of which the principal are, in the southern part, Julianshaab, Statenhuk, Godthaab, and New Hernhut; the seat of the missionaries; in the northern, Egedesminde, Umanak, Operniwick. Farther north still, Captain Ross discovered a district which he named the Arctic Highlands. The inhabitants, who had never before seen an European, were seized with the utmost astonishment, especially at the ships, which they at first imagined to be huge birds with wings. They were found to differ from the other Esquimaux in being destitute of boats; for though much of their food is drawn from the sea, they obtain it by merely walking over the frozen surface. They have the advantage, however, of possessing iron, from which they frame instruments much more powerful than those made of bone by others of their race. They differ greatly from them also in having a king, who is beloved, and to whom they pay a tribute of seals, train oil, and fish. The cliffs on their coast present the remarkable phenomenon of red snow, the nature and origin of which have excited much controversy among the learned in Europe.

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The eastern coast, extending southward from Iceland to Cape Farewell, has excited a remarkable interest in consequence of having been believed to be the seat of early colonies from that island, described as once having been in a flourishing state. But vast fields of ice, it is said, coming down upon this coast, shut it out from the civilised world, and the colony, it is feared, perished from the want of supplies. Several expeditions were sent by the Danish government to discover "lost Greenland," as it is called, but without success. But recent examinations have proved that these lost colonies were situated on the western coast. To the north of Iceland, however, a range of coast, 400 miles in length, between 68° and 75°, was lately surveyed by Mr. Scoresby and Captain Clavering. The most remarkable part was called the Liverpool Coast, along which rises a mountain chain 3000 or 4000 feet high, forming precipitous cliffs, which terminate in numberless peaks, cones, and pyramids. Like other arctic shores, it is penetrated by very deep inlets, particularly one called Scoresby's Sound, a branch from which is supposed to convert the Liverpool Coast into an island. The tract on the opposite side was called Jameson's Land, bounded on the south by Cape Hooker, and beyond which another sound branched off, which appeared likely to render it also insular. This inlet appeared stretching into the interior without any apparent termination; and there is some room to conjecture that it may communicate with Jacob's Bight on the western coast, which Sir Charles Giesecké traced to the height of 150 miles. No natives were seen; but there appeared everywhere marks of recent inhabitation, and even small villages, composed of subterraneous winter abodes. Captain Clavering afterwards surveyed a part of the coast lying farther to the northward. He found it bold, mountainous, and deeply indented with bays; but its aspect was dreary and desolate in the extreme. Yet, on landing upon an inlet named after Sir Walter Scott, he met a party of natives bearing all the general characters of the Esquimaux race, and who, by their extreme alarm and surprise, showed that they had never before been visited by Europeans. The coast was traced as high as 75°, and was seen extending still northward as far as the eye could reach.

Spitzbergen, called often East Greenland, is a large island in the Arctic Sea, lying about 600 miles east of that now described. It is about 300 miles from south to north, and 200 from east to west, and reaches beyond 80° N. lat. It is of an irregular form, and broken by deep bays and sounds, which, on the eastern side, convert two large portions into islands, called Edge and Seland. Its cliffs, several thousand feet high, are rocky, and composed in a great measure of loose stones; and though the snow in summer is melted from their summits by the heat of the sun, it continues long to lie in the deep valleys. The country is wholly unproductive, but abounds in the deer, the walrus, and other arctic animals. Spitzbergen, however, has been much frequented by the maritime nations, having been long the chief and almost sole seat of the northern whale-fishery. With this view its western bays were fiercely disputed, till an agreement was made by which the English and Dutch divided between them the principal stations. The latter founded the village of Smeerenberg, where they landed the whales and extracted the oil; and it became so flourishing as to be considered almost a northern Batavia. The whales, however, taught by the destructive war waged against them, deserted all the bays one after another; and it was necessary to carry on the fishery in the open sea. Even then they fled from one quarter to another, till the whole Spitzbergen sea was nearly *fished out;* and it became necessary, notwithstanding the increased danger, to remove the chief scene of operations to Davis' Straits. The coasts of Spitzbergen have also formed the route by which Phipps, Buchan, and Parry made their attempts to penetrate to the pole. The latter reached nearly to 83° N. lat., and found the sea in August all covered with ice, but broken, sinking, and interspersed with lanes of water. At this utmost limit every trace of animal life had disappeared. A few Russian hunters take up their abode on the dreary shores of Spitzbergen, where they continue even during the winter, occupied in the pursuit of the seal and the walrus.

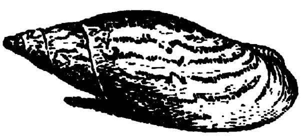
Nova Zembla is another large mass of insular land, extending north from the boundary of Europe and Asia, between 68° and 74° N. lat., 53° and 70° E. long. Though more southerly than Spitzbergen, it has an aspect, if possible, still more dreary. The southern coasts are low and flat; but those to the north are bordered by mountains wrapped in perpetual snow. It is less penetrated by sounds, though one running east and west reaches entirely across, dividing it into two nearly equal parts. The coasts have been chiefly frequented by navigators, who sought in this direction a passage to India, but commonly found their career arrested on these dreary shores. Barentz and his crew wintered in a haven on the north-eastern coast, where they suffered the most extreme hardships, to which the commander finally fell a victim. The Russian government have recently sent expeditions under Lazareff, Litke, and other navigators, to complete the exploration of the coast, but have not made any attempt to form a settlement upon it.

SUBSECT. 2.—*South Polar Islands.*

The islands of the Southern Polar Sea, to which M. Balbi has given the somewhat too pompous title of the Antarctic Archipelago, extend chiefly south-east from the extremity of the American continent. They present the same general character as the arctic lands, with some variations. Though situated in a comparatively low latitude, which in the northern hemisphere admits of habitation and culture, they are utterly dreary and desolate, buried in ice and snow, and not tenanted by a single human being. Their shores, however, are still more crowded with those huge amphibia, whose rich coating of oil renders them a tempting prize. Hence they have become the object of European avarice, which, during the few years that have elapsed since the islands were known, has made dreadful havoc among these animals, and greatly thinned their numbers. The walrus is here replaced by the sea elephant, a still huger creature, and richer in oil; and the seals have a fine furred skin, for which the Americans have obtained six or seven dollars apiece in the market of China. These shores are equally distinguished for the legions of sea-birds of gigantic size and peculiar form; among which the penguin and the albatross are the most remarkable. The lands, on the whole, are smaller than in the north, more broken into islands, and as deeply indented by bays, forming many excellent harbours.

The Malouine or Falkland Islands, though situated only a little beyond 50° S., the latitude of England, bear all the characters of an antarctic group; rocky, destitute of inhabitants, but crowded with seals, and containing very fine ports. On one of these the English formed a settlement in 1766; but it was destroyed, in 1770, by a Spanish expedition from Buenos Ayres. Measures have lately been taken for again forming one on a small scale. There are two large islands, Falkland and Soledad, with a great number of islets. The fisheries on these coasts have lately acquired considerable importance. Mr. Weddell states, that in 1821 and 1822, they yielded 940 tons elephant oil; and that there were drawn from them and from New South Shetland together 320,000 fur seal-skins. The fine harbours are often touched at by vessels passing round Cape Horn, or to the southern fisheries. The Falkland Islands produce several peculiar shells, among which is the rare Cymbiola magellanica, or Magellanic Volute, (*fig.* 932.). A gigantic species of Limpet, with a perforation in the middle, and beautifully rayed with brown, is also common: it is the Fissurella picta of Lamarck.

932



Magellanic Volute.

South Georgia, situated to the east of the Falkland Islands, and nearly in the same latitude, is a large island, about 90 miles long by 10 broad, but bearing a character exactly similar. Discovered in 1675 by La Roche, it was carefully surveyed in 1771 by Cook, while searching for an austral continent. It was then almost forgotten till the abundance of its seals and sea elephants attracted the notice of those engaged in the southern fisheries. The pursuit was carried on with such activity, that, according to Captain Weddell, the London market was in a few years supplied hence with 20,000 tuns of oil, while 1,200,000 fur seal-skins were also carried off. But the chase of the sea elephant was prosecuted with such reckless avidity, without sparing even the pregnant mothers, that they have been nearly extirpated, and the trade ruined.

New South Shetland, with the smaller adjoining group of the New Orkneys, being situated in 61° and 63° S. lat., are scarcely nearer the pole than the British islands after which they are named; yet their climate is that of Greenland and Spitzbergen; islands of ice are tossing through the seas, and the land is peopled only by those animal forms peculiar to the antarctic circle. These, however, since the discovery by Captain Smith, of Blyth, in 1818, have attracted numerous adventurers, who have carried off great quantities of oil and seal-skins; but by their improvident pursuit have greatly thinned the supply. There are twelve considerable isles, of which the principal are named Barrow, King George, and Livingston, with innumerable rocky islets. The land is moderately high, one peak rising to 2500 feet; while elsewhere there is a volcanic cone, which rises only to 80 feet. Deception Isle contains a very fine harbour. The New Orkneys consist of a large island called Pomona, or Mainland, and of many smaller ones. Farther to the east are a number of small islands, which, being at first supposed to form a continuous coast, were named Sandwich Land. Again, to the south of New Shetland, in about lat. 64°, a Russian captain, Bellinghausen, lately observed a range of coast, which he named Trinity Land, but which may probably be found to consist also of a cluster of islands. Two Russian frigates also, in 1829, penetrated to 69° S. lat., where they found two islets at some distance from each other, which they named Peter I. and Alexander I., and which form the most southerly spots of land yet known to exist.

Among anctarctic islands we must also reckon Kerguelen's, or Desolation, situated far to the east of those now described, in long. 70° E., and the moderate lat. of 50°. It resembles exactly New Georgia and South Shetland. Captain Cook's party, who carefully examined it, were astonished at its scanty flora, amounting only to sixteen species, mostly mosses and lichens; but they were struck by the multitude of amphibious animals with which its shores were peopled. This has lately attracted the attention of the adventurers in the southern fishery, who, according to Captain Weddell, have recently drawn from it supplies nearly as large as from New Georgia. We may finally mention the solitary islet of Tristan d'Acunha, situated to the west of the Cape of Good Hope, in the low latitude of 38°. By the picturesque description of Mr. Earle, who was driven thither by shipwreck, it appears indeed to contain rich pastures, on which European cattle thrive; yet the bleak storms of a long winter, and its shores crowded with the sea elephant, the penguin, and the albatross, mark its affinity to the antarctic regions now described. A settlement formed there by the English has been abandoned; yet a very few individuals are still induced to reside on it by the facility of subsistence.

In 1831, Captain Biscoe fell in with land, in 66° S. lat. and 47° E. lon., to which he gave the name of Enderby's Land, and which he conceives to be of considerable extent. In the following year, he touched upon another coast of uncertain extent, in about the same latitude, and in lon. 70° W. To this latter tract has been given the name of Graham's Land.

MAP OF NORTH AMERICA. Fig. 935.

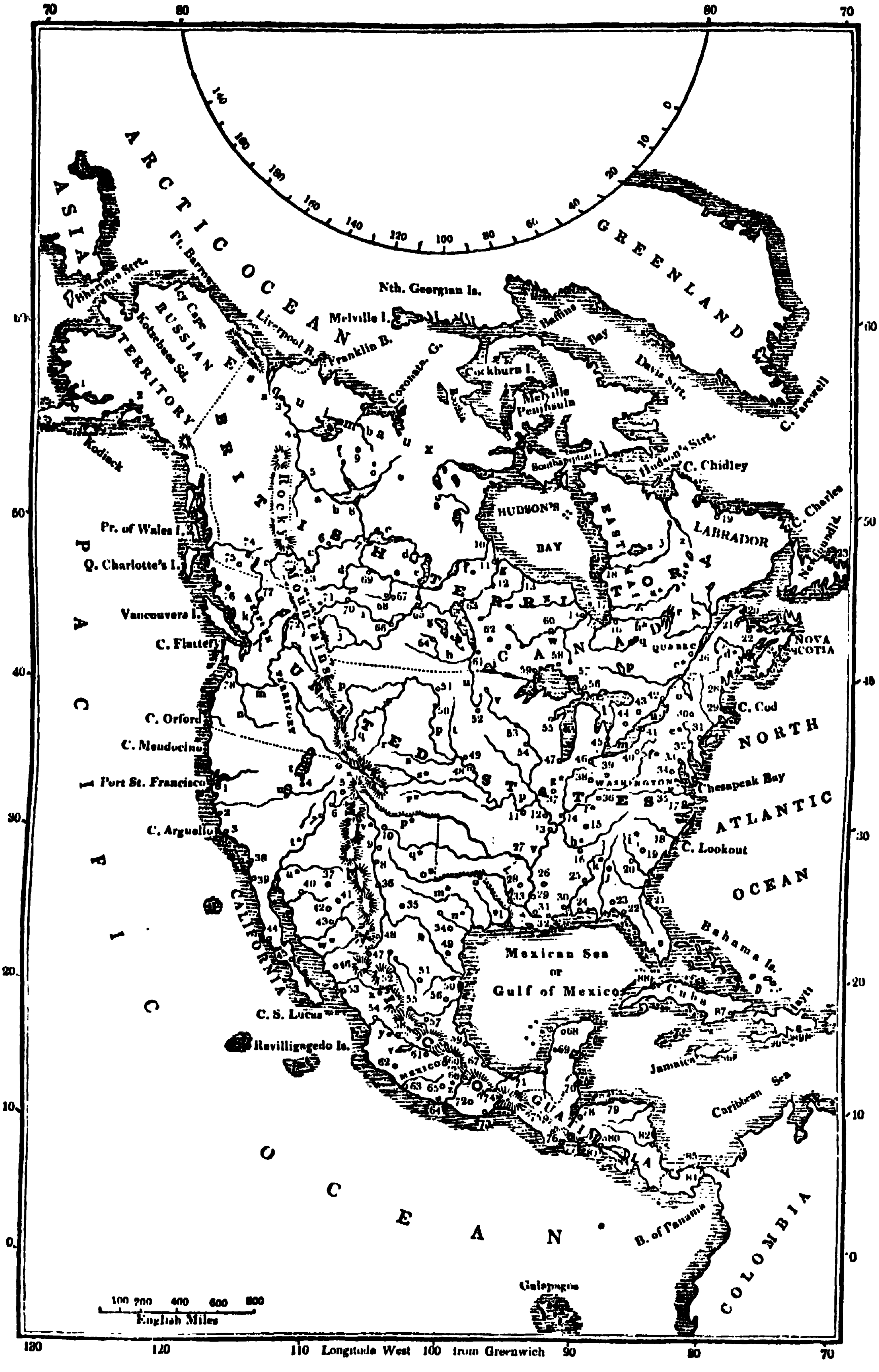
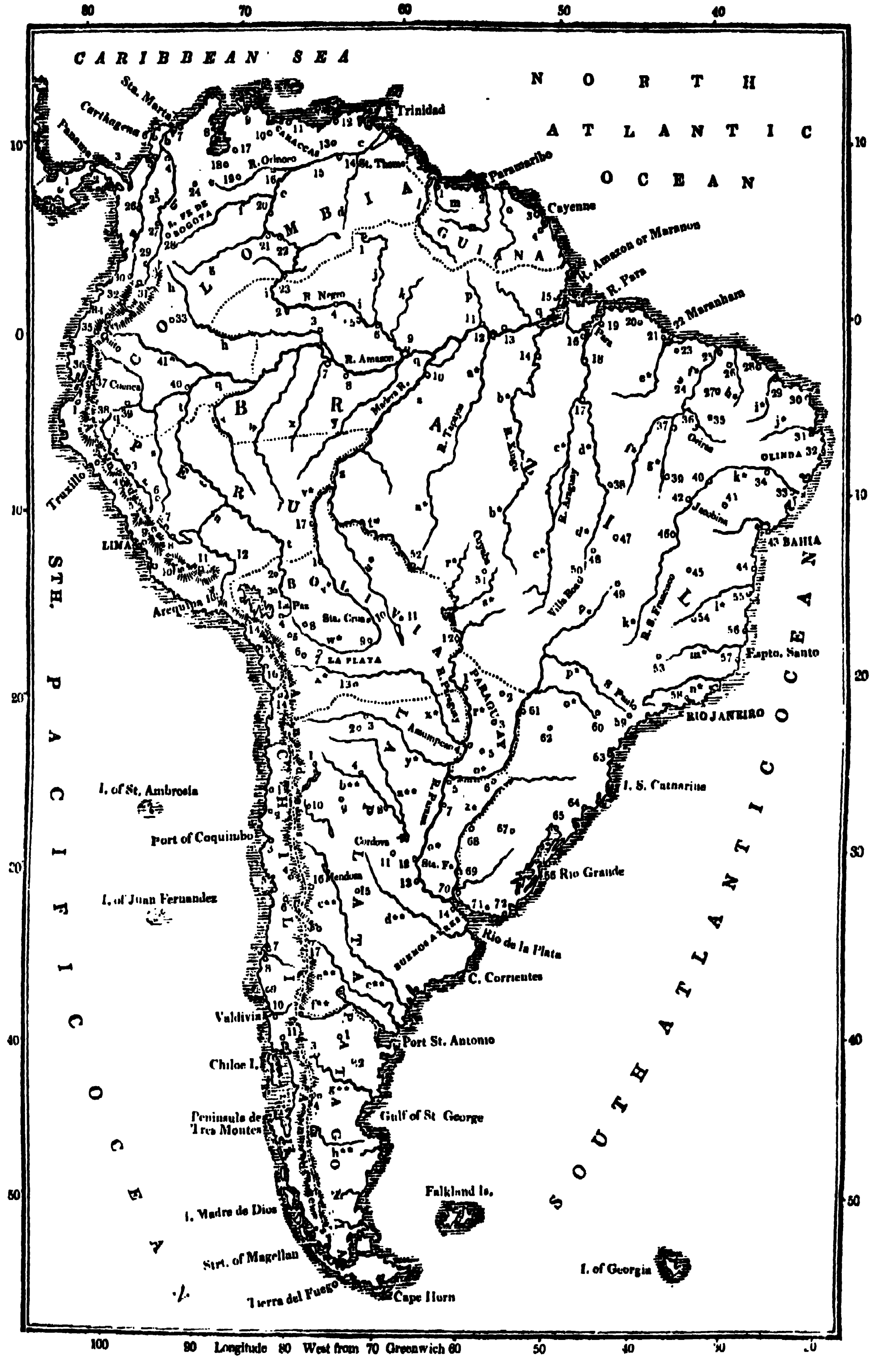


FIG. 936. MAP OF SOUTH AMERICA.



BOOK V.

AMERICA.

America is a vast continent, comprising one of the grand divisions of the globe. The western hemisphere, in fact, contains scarcely any continental land that is not American; though it includes but a small portion of land, as compared with the eastern hemisphere. This continent, having remained for thousands of years unknown to the most learned and enlightened nations of the East, is called commonly the New World; while Europe, Asia, and Africa are called the Old World. America includes an extent of territory nearly equal to half of the three united, constituting about three-tenths of the dry land on the surface of the globe.

CHAPTER I.

GENERAL VIEW OF AMERICA.

America is bounded on each side by the greatest of the oceans. On the west, the Pacific separates it from Asia, and, from an almost immeasurable breadth, gradually narrows, till it terminates at Behring's Straits, where the two continents come almost into contact. On the north, is the Arctic Ocean, divided by huge frozen islands into numerous bays and inlets. On the east, the Atlantic separates it from Europe and Africa. On the south it presents a stormy cape to the expanse of the Southern or Antarctic Ocean. The northern boundary of America is now found to have a general range of about 70° N. lat. The southern extremity of the continent, on the Straits of Magellan, is in lat. 54° S. Hence this continent comprehends the whole of the tropical and temperate, with part of the arctic climates, on both sides of the equator. This line, however, which would amount to about 9000 miles, cannot be considered as measuring the dimensions of a continent so irregular in its form, and of which the southern portion is so nearly detached, and lies almost entirely east of the northern. It seems, therefore, necessary to view these two portions separately.

North America, extending from 55° to 168° W. lon., and from 8° to 70° N. lat., has an area of about 7,500,000 square miles, exclusive of the islands lying north-east and north of Baffin's Bay and Barrow's Strait. Presenting a broad front to the Arctic Seas, it gradually

References to the Map of North America.

NORTH PART.
1. Fort Alexandrovskaia
2. Russian Factory
3. Fort Good Hope
4. Fort Norman
5. Fort Simpson
6. New House
7. Fort Chipewyans
8. Fort Resolution
9. Fort Enterprise
10. Fort Churchill
11. York Factory
12. Rock House
13. Severn House
14. Albany Fort
15. Moose Fort
16. Rupert's House
17. East Main Factory
18. Whale Bay House
19. Nain
20. Perce
21. Dalhousie
22. Chatham
23. St. John's
24. Halifax
25. St. John's
26. Quebec
27. Montreal
28. Portland
29. Boston
30. Albany
31. New York
32. Philadelphia
33. Baltimore
34. Washington
35. Richmond
36. Frankfort
37. Vandalia
38. Indianapolis
39. Columbus
40. Franklin
41. Buffalo
42. Kingston
43. Toronto
44. London
45. Detroit
46. Fort Wayne
47. Chicago
48. Fort Calhoun
49. Yanktons
50. Ricaree Village
51. Fort Mandan
52. Columbian Fur Company Establishment
53. Fort St. Anthony
54. Fort Crawford
55. Fort Howard
56. H. B. Company's Establishment
57. Michipicoton
58. Hudson's Bay Settlement
59. Fort William
60. Gloucester House
61. Fort Alexander
62. Red Lake House
63. Norway House
64. Albany House
65. Cumberland House
66. Carlton House
67. N. W. House
68. H. B. House
69. La Crosse House
70. Fort George
71. Nelson's House
72. Athabasca
73. Fork Fort
74. Sabine
75. Stilla
76. Village of Rascals
77. Attuas
78. Fort George.

SOUTH PART.
1. Fort St. Francisco
2. St. Antonio
3. St. Barbara
4. St. Isabel
5. St. Rosa
6. Osito
7. St. Fernando
8. Sibillela
9. Albuquerque
10. Santa Fe
11. Jefferson
12. Jackson
13. New Madrid
14. Cadiz
15. Columbia
16. Fort Deposit
17. Edenton
18. Raleigh
19. Columbia
20. Augusta
21. St. Augustine
22. St. Pedro
23. Tallahassee
24. Pensacola
25. Cahawba
26. Jackson
27. Little Rock
28. Fort Mira
29. Natchez
30. Mobile
31. Fort Adams
32. New Orleans
33. Natchitoches
34. St. Antonio
35. Fort del Altar
36. Jacome
37. Santa Cruz
38. St. Gabriel
39. St. Diego
40. Caborra
41. Arispe
42. Petic
43. Matape
44. St. Maria
45. Loretto
46. St. Roque
47. St. Pedro
48. Chihuahua
49. Dolores
50. Monterey
51. Castanuela
52. Durango
53. Sonora
54. Santiago
55. Zacatecas
56. New Santander
57. St. Luis Potosi
58. Guadalaxara
59. Tuspan
60. Mexico
61. Valladolid
62. Colima
63. Zacatula
64. Acapulco
65. Tuspa
66. La Puebla
67. Vera Cruz
68. Merida
69. Campeachy
70. Balize
71. Chiapa
72. Oaxaca
73. Port Colorado
74. Tehuantepec
75. Santiago
76. Guatimala
77. Sonsonate
78. Santiago
79. Truxillo
80. Leon
81. Realejo
82. Bluefields
83. Nicoya
84. Panama
85. Porto Bello
86. Kingston
87. Cuba
88. Havanna
89. St. Domingo
90. Port au Prince.

Lakes.

a Great Bear Lake
b Great Slave Lake
c Athabasca, or Lake of the Hills
d Wollaston
e Deer Lake
f Winnipeg
g Little Winnipeg
h Manatoulin
i Lake of the Woods
j Superior
k Michigan
l Huron
m Erie
n Ontario
o Champlain
p Temiscaming
q Abbitibbe
r Mistissinny
s Clear Water
t Timpanogos
u Teguayo
v Chapala.

Rivers.

a Mackenzie's River
b Coppermine
c Peace
d La Biche
e Missinippi
f Churchill
g Hayes
h Assiniboine
i Saskatchawan
j Red Deer
k Tacoutche Tesse
l Caledonia
m Columbia
n Multnomah
o Saptin, or Lewis's River
p Missouri
q Yellow Stone
r Big Horn
s Running Water
t James's River
u Red River
v Mississippi
w Albany
x Equan
y Great Whale River
z Caniapusaw
a* East Maine
b* Rupert's River
c* St. Lawrence
d* St. John's River
e* Delaware
f* Ohio
g* Great Wabash
h* Tennessee
i* Savannah
j* Apalachicola
k* Alabama
l* Sabine
m* Colorado
n* Guadalupe
o* Red River
p* Arkansas
q* Canadian
r* Kansas
s* Platte
t* Colorado
u* Gila
v* Bravo, or Rio del Norte
w* Hiaqui
x* Rastla
y* Rio Grande de Santiag
z* Mescala.

expands in width to about 50° N. lat., when it again contracts its dimensions until it terminates in the narrow isthmus of Panama. Its winding outline presents a great extent of sea coast, which is estimated to amount to about 9,500 miles on the eastern, and somewhat more on the western side, in addition to the frozen shores of the northern border. It has been well divided by a distinguished writer, into five physical regions. 1. The table-land of Mexico, with the strips of low country on its eastern and western shores. 2. The Plateau lying between the Rocky Mountains and the Pacific Ocean, a country with a mild and humid atmosphere, as far north as 55°, but inhospitable and barren beyond. 3. The great central valley of the Mississippi, rich and well wooded on the east side, bare but not unfertile in the middle, bare, dry, sandy, and almost a desert on the west. 4. The eastern declivities of the Alleghany Mountains, a region of natural forests, and of mixed but rather poor soil. 5. The great northern plain beyond 50°, four-fifths of which is a bleak and bare waste, overspread with innumerable lakes, and resembling Siberia both in the physical character of its surface and the rigour of its climate.

South America, which is comprised between the 12th degree of north, and the 56th of south latitude, and which spreads in breadth from 36° to 81° W. lon., is inferior in dimensions to the northern portion of the continent by 1,000,000 square miles. Its coast is also less indented by large bays, but it presents the same tapering form to the south. Its greatest breadth, about six degrees south of the equator, is 3,200 miles, and its length, 4,500. South America may be divided into five distinct physical regions. 1. The low country on the shores of the Pacific, about 4,000 miles in length, and from 50 to 200 in breadth; the two extremities of this district are fertile, the middle a sandy desert. 2. The basin of the Orinoco, surrounded by the Andes and their branches, and consisting of extensive plains (*llanos*), nearly destitute of wood, but covered with a high herbage during a part of the year. 3. The basin of the Amazon, a vast plain, with a rich soil and a humid climate, and exhibiting a surprising luxuriance of vegetation. 4. The great southern plain of the Plata, in parts dry and barren, and in parts covered with a strong growth of weeds and tall grass. 5. The high country of Brazil, eastward of the Parana and the Araguay, presenting alternate ridges and valleys, thickly covered with wood on the Atlantic slope.

Sect. I.—*General Outline and Aspect.*

Mountain ranges, peculiarly distinguished by their magnitude and continuity, pervade this quarter of the world. One chain, the longest, and, with a single exception, the loftiest on the globe, appears to extend from its northern to its southern extremity. By far the most

References to the Map of South America.

COLOMBIA.
1. Veragua, or Santiago
2. Panama
3. New Edinburgh
4. Mompox
5. Tolu
6. Carthagena
7. Santa Martha
8. Maracaybo
9. Coro
10. Valencia
11. Caraccas
12. Cumana
13. Concepcion del Pao
14. Fort Thome, or Angostura, or New Guiana
15. Alta Gracia
16. S. Fernando
17. Truxillo
18. Merida
19. Varinas
20. Atures
21. S. Fernando do Atabassa
22. S. Barbara
23. S. Carlos do Rio Negro
24. Pampeluna
25. Romedios
26. Antioquia
27. Mariquita
28. Santa Fe de Bogota
29. Neyva
30. Popayan
31. Timana
32. Pasto
33. La Concepcion
34. Mira
35. Quito
36. Guayaquil
37. Cuenca
38. Jaen
39. S. Borja
40. S. Joaquim do Omaguas
41. S. Xavier.

GUIANA.
1. Georgetown
2. Paramaribo
3. Cayenne
4. St. Louis, or Oyapock.

BRAZIL.
1. Santa Rosa
2. S. Antonio de Castanheiro
3. S. Antonio de Marapi
4. Thomar
5. Barcellos
6. Mour
7. Valla de Ega
8. Avellos, or Coary
9. Rio Negro, or Fortaleza de Barra
10. Borba
11. Obidos, or Pauxis
12. Santarom
13. Oiteiro
14. Pomba
15. Villa Nova da Madre de Dios
16. Villa Vicoza
17. S. Joao das duas Barras
18. Alcobaza
19. Para
20. Gurupy
21. Alcantara
22. Maranham
23. Itapicuru
24. Caxias
25. Parnaiba
26. Vicoza
27. Marvad
28. Seara, or Villa del Forte
29. Aracati
30. Natal
31. Paraiba
32. Olinda } Pernam-
Recife } buco
33. Villanova
34. Pambo
35. Valencia
36. Oeiras
37. Jurumenha
38. Carmo
39. Pernagoa
40. Jonzeiro
41. Jacobino
42. Arrado
43. Bahia, or S. Salvador
44. Ilheos
45. Jouzearo
46. S. Rosa
47. Arraya
48. Agoaquente
49. Paracatu
50. Villa Boa
51. Cuyaba
52. Villa Bella
53. Villa Rica
54. Bom Successo, or Fanado
55. Porto Seguro
56. S. Joze do Porto Alegre
57. Espiritu Santo
58. Rio Janeiro
59. Lao Paulo
60. Villa Nova
61. Guaira
62. S. Antonio
63. Paranagua
64. Conventos
65. Portalegre
66. Rio Grand
67. Botobi
68. S. Jose
69. Almagro
70. Loriana
71. Monte Video
72. Maldonado.

PERU.
1. Tumbez
2. Truxillo
3. Caxamarquilla
4. Huara
5. Caxabamba
6. Huanco
7. Tarma
8. Ocopa
9. Lima
10. Pisco
11. Chalbuanca
12. Cusco
13. Arequipa
14. Ila
15. Arica
16. Tarapaca
17. La Exaltacion de la Cruz.

BOLIVIA.
1. S. Xavier
2. Apolobamba
3. Zarata
4. La Paz
5. Oruro
6. Potosi
7. La Plata
8. Cochabumba
9. Florida
10. Santa Cruz de la Nueva
11. S. Lorenza de la Frontera
12. Albuquerque
13. S. Bernardo do Tarija
14. S. Francisco de Atacama.

LA PLATA.
1. Palcipus
2. Salta
3. Jujuy
4. Tucuman
5. Corrientes
6. Candelaria
7. Santa Lucia
8. Santiago
9. Catamarca
10. Rioja
11. Cordova
12. Santa Fe
13. Rosario
14. Buenos Ayres
15. S. Luis
16. Mendoza
17. El Diamante.

CHILI.
1. Copiapo
2. Huasco
3. La Serena
4. Aconcagua
5. Valparaiso
6. Santiago
7. Concepcion
8. Arauco
9. Lamuo
10. Valdivia
11. Culbuco
12. S. Carlos.

PATAGONIA.
1. Colpe
2. Sanchada
3. Gitonol
4. Chulilutoni

PARAGUAY.
1. Itapecaguacu
2. Voquita
3. Villa de Curuguaty
4. Assumpcao
5. Villa Rica.

Rivers.
a Cauca
b Magdalena
c Orinoco
d Paragua
e Apure
f Meta
g Guaviare
h Caqueta, or Yapura
i Negro
j Branco
k Juguapira
l Essequibo
m Demerara
n Surinam
o Marony
p Oriximina
q Amazon, or Maranon
r Lauricocha
s Huallaga
t Ucayal, or Paro
u Apurimac
v Hyabary, or Juvary
w Jutay
x Tefe, or Teffo
y Puru, or Purus
z Madera
a* Tapajos, or Topayos
b* Xingu
c* Uruguay
d* Tocantins
e* Meary, or Mearim
f* Parnaiba
g* Gorguca
h* Camozin
i* Seara
j* Paraiba
k* S. Francisco
l* Rio Grande do Belmonte
m* Doce
n* Paraiba
o* Parana
p* Tiete
q* Paranahyba
r* Paraguay
s* S. Lorenzo
t* Guaparo
u* Ubahy, or S. Magdalena
v* Mamora
w* Rio Grande de la Plata
x* Pilcomayo
y* Rio Grande
z* Uruguay
a** Salado
b** Dolce
c** Mendoza, or Colorado
d** Saladillo
e** Sanguel
f** Sicu Leuvu
g** Camerones
h** Port Desire.

distinguished portion is that colossal range which, under the name of Andes, traverses South America parallel to and at a small distance from the Pacific. Commencing at the northern border of Colombia, and throwing some lateral branches along its coast towards Coro and Caraccas, it continues in its progress southwards, always swelling in magnitude, till, almost beneath the equator, it shoots up into the summits of Chimborazo and Antisana, believed till lately the loftiest points on the earth; while it spreads terror by the tremendous volcanoes of Pinchincha and Cotopaxi. In passing through Peru, it continues still very lofty, and, on reaching its southern or upper region, forms a vast knot or mass, amid whose peaks tower Illimani and Sorata, which recent observation has proved to surpass even Chimborazo, though still inferior to the highest among the Himalayah. In its progress behind Chili, this great chain continues to form an immensely steep though not very broad ridge. It becomes less considerable as it approaches the southern limit of the continent, and the peculiarly dreary and desolate aspect which it there assumes is owing less to elevation than to the wintry severity of the climate. The heights on the adjacent isle of Terra del Fuego do not exceed 6000 feet; and even the formidable cliffs with which Cape Horn faces the tempests of the Southern Ocean do not rise higher than from 1500 to 1600 feet.

The same chain must now be traced in its progress through the more northern parts of America. The Isthmus of Panama, indeed, that narrow neck of land which connects these two great continental masses, is filled only by a ridge of moderate elevation, so as to allow hopes that a canal may unite the two opposite oceans. But after a short interval it swells into that great table plain, upwards of 6000 feet high, which covers the greater part of Mexico and Guatimala, and converts there a tropical into a temperate climate. From this level shoot up much higher the snowy conical peaks of Orizaba, Popocatepetl, and Toluca, the first two of which send forth formidable volcanic eruptions. Beyond Mexico this great elevation is partly prolonged in the great chain of the Rocky Mountains which run parallel to the Northern Pacific, and bound on the west the valley of the Mississippi. Though their cliffs be steep and rugged, they by no means equal the elevation of the Andes, scarcely at any point surpassing 12,000 feet. Beyond the 55th parallel they rapidly sink, though a branch, about 2000 feet high, runs along the western bank of the Mackenzie River, and even along the shores of the Arctic Ocean. It may be observed that very high mountains are seen at different parts of the shore of the Northern Pacific; particularly in the 60th parallel, where Mount St. Elias is supposed to exceed 17,000 feet; but whether these form a parallel chain to the Rocky Mountains, or are branches detached from them, is not yet duly ascertained.

An eastern chain pervading America, though not quite in so uniform and connected a manner, seems traced by Humboldt. In North America, the Appalachians, or Alleghanies, form a continuous ridge parallel to the Atlantic, and bounding the maritime territory of the United States. Detached, somewhat irregular, branches from them spread through Canada, Labrador, and the vicinity of Hudson's Bay. The mountains which, rising around the Gulf of Mexico, form the West India islands, appear to be elevated summits of the same range. After disappearing for a small interval in the delta of the Orinoco, it appears again in numerous ridges, which spread wide over Guiana, and of which the central mass appears to be Sierra de Parime. On the southern side of the Amazons, again, Brazil is traversed by several successive ranges, which are in some degree prolonged to the La Plata, beyond which they sink finally into the vast plains of the Pampas. The whole of these eastern ranges are very low, when compared with the grand western chain; they reach generally from 2000 to 3000 feet, and seldom exceed 6000: they are not the seat of violent volcanic action. Several of the West India peaks, however, are somewhat higher than the above, and one or two are volcanic.

The plains of America form almost as great and remarkable an object as its mountains. We may remark in this continent three systems. One is the plain along the Atlantic, between that ocean and the eastern range of mountains. To this belong the original territory of the United States, and that of Brazil, the former moderately, the latter luxuriantly, fertile. The second plain is that on the opposite side of the continent, between the great western chain and the Pacific; it is narrow, moist, of very various aspect and produce. But the plains which extend through the centre of the continent, between the great ranges of the eastern and western mountains, are of prodigious extent, exceeding even those which cover so great a part of Africa and Asia. While the latter two have a vast portion of their surface doomed to hopeless sterility by heaps of moving sand, the interior plains of America are almost throughout completely watered, and overgrown in many places with even an excessive luxuriance of vegetation. It is true they display solitudes as vast, and tenanted by races as savage, as the most dreary deserts of the Old World. But this backward state is evidently owing to the unfavourable and inland site of these vast tracts, destitute of maritime intercourse, and only of late become the theatre of European settlement. Even the rich moisture of the ground, covered with dense and entangled forests, and with gigantic grasses, though it marks the natural luxuriance of the soil, obstructs the first efforts of unimproved culture. But the tide of emigration has now completely set in to these vast interior tracts; great states have been founded in them; and it is evident that in a few ages they will be covered with a numerous and increasing population. This is remarkably the case with the great plain of the Missouri-Mississippi, between the Rocky Mountains and the Alleghanies, forming the western territory of the United States. The plantations formed in this region are proceeding with such rapidity, that it must evidently, in a few generations, become one of the most populous and flourishing regions of the globe. This plain is prolonged without interruption northward to the country watered by the upper courses of the Mississippi and the St. Lawrence, and even as far as the Polar Ocean; so that, as Humboldt observes, one of its borders is covered with the palms and the splendid foliage of the tropic, while in the other the last buds of arctic vegetation expire. These northern plains, however, present a very gloomy aspect, overspread with dreary pine forests, intersected by frozen lakes, and affording shelter only to numerous tribes of the elk, the deer, and other fur-bearing animals. The extent of this plain is estimated by Humboldt at 3,240,000 square miles. Another, almost equally vast and luxuriant, occurs in the heart of South America, where it occupies the basin of the Amazons, between the Andes and the mountains of Brazil; but it is covered, as yet, with unbroken native forests, and tenanted by rude and savage tribes. The same great authority reckons it at 3,120,000 miles. In the northern quarter is that great expanse of the Llanos of the Orinoco, estimated at 348,000 miles, covered with gigantic grasses, yet still, too, almost uncultivated, while in the southern part of the continent, the immense surface of the Pampas, bordering the La Plata, displays its fertility only by the numberless herds of wild cattle, which have multiplied amid its pastures. The area, according to Humboldt, comprehends 1,620,000 miles.

Table-lands, or elevated plains, form a characteristic feature in the geography of America, though not so striking as in that of Asia. The principal is the one which covers the whole of Mexico, with part of Guatimala, rising to the height of 6000 feet. The Andes within their lofty ridges enclose very elevated sites, on which even cities are built; but, in general, these level spots are too limited to constitute more than a mountain valley hemmed in by lofty perpendicular steeps; and often from the bed of the river to the top of the mountain is a continued and laborious ascent. Bolivia, or Upper Peru, with the bordering districts of La Plata, comprises certainly a very large extent of elevated land, and cities are built on a higher level than in any other quarter of the globe. Yet its general rugged and irregular surface seems to constitute rather a mountainous territory than a table plain.

The rivers of America constitute perhaps her grandest natural features, or at least those in which she claims the most decided pre-eminence over the other quarters of the globe. They are unequalled both in the length of their course, and the masses of water which they pour into the ocean. The principal of these rivers take their rise in the great western chain, from its eastern side, whence, being swelled by numerous streams, they roll broad and spacious across the great interior plain, till they approach the eastern range of mountains. Thence they derive a fresh and copious series of tributaries, till, bearing as it were the waters of half a continent, they reach the ocean. Thus, the Missouri (which, notwithstanding the error which has given the name of Mississippi to the united channel, is undoubtedly, in a physical view, the main stream,) takes its rise in the Rocky Mountains, then flows eastward into the deep valley, where it is joined by the Mississippi, and there receives from the Alleghany the copious tribute of the Ohio. In its course thence southward, it receives tributaries both from the eastern and western range. In South America, again, the Amazons, after a long course along the foot of the loftiest Andes, and collecting all the waters which descend from them during a range of upwards of 1000 miles, rolls eastward across the great plain, till it comes to receive ample tributaries from the eastern ranges, of Parime on one side, and Brazil on the other, and, before reaching the Atlantic, is swelled almost to an inland sea. The La Plata, after having by itself, the Pilcomayo, and other tributaries, collected all the southern waters of the Andes, in its south-eastern course across the continent, receives the Parana, which, after its long course through the valleys of the Brazilian chain, disputes the rank of principal; after which, the united stream, in its junction with the Atlantic, bears the magnitude of a great bay or inlet. There are other rivers which from different and much more limited sources swell to the first magnitude. In North America, the St. Lawrence and the Mississippi proper derive their ample stores not from any mountain chain, but from that cold watery region of forests and swamps which forms the northern prolongation of the great central plain. In South America, the Orinoco, though the Andes send to it some considerable tributaries across the Llanos, is formed chiefly during its winding course around the Parime and other ranges that traverse Guiana; yet such is the store lodged in this region of forests and swamps, that it pours by its seven mouths into the Atlantic a flood almost as ample as its greatest rivals. The rivers which flow through the comparatively narrow valleys which intervene on the east and west between the mountain chains and the nearest ocean, cannot, in general, reach so great a magnitude; though often valuable for navigation, they belong only to the particular district which they traverse; yet the Columbia, on the western declivity of the Rocky Mountains, ranks among the great rivers of the globe. The Coppermine, and the Mackenzie, which flow through the north into the Arctic Sea, have a long course, but, from the barren regions which they traverse, are of no commercial value. It has been estimated that the length of the navigable waters of the Amazons and its branches is equal to 50,000 miles; of those of the Mississippi, 40,000; of the Plata, 20,000; of the Orinoco, 8,000; of the St. Lawrence, 2,000.

Lakes in the most northerly part of the continent are numerous and important. They are not, however, mountain lakes, nor formed by mountain streams. They originate in those great wooded watery plains whence the Mississippi and the St. Lawrence take their rise. The chain of connected lakes on the upper course of the latter river, the Ontario, Erie, Huron, Michigan, and Superior, form the largest bodies of fresh water in the world. Communicating with the sea by the broad channel of the St. Lawrence, and in a country whose population is rapidly increasing, they are becoming of the greatest advantage to commerce. Similar lakes extend northward as far as the Arctic Sea,—the Lake of the Woods, the Athabasca, the Great Slave Lake, the Great Bear Lake; but these, unconnected with any other sea, and frozen for the greater part of the year, cannot serve any commercial purpose. In the heart of the mountain region of Upper Peru is the great lake of Titicaca; but, generally speaking, the Andes, abrupt, lofty, and pouring their waters into deep and narrow valleys, form rivers, and not lakes.

In addition to the advantage which the New World possesses over the Old in the great extent of its navigable waters, penetrating into its inmost recesses and affording unexampled facilities of communication between all parts and the sea, it is not less favourably characterised by the absence of sandy deserts, which, in the Old World, not only withdraw a great amount of the soil from the dominion of man, but also have an injurious influence upon the climate of the neighbouring regions, and present serious obstacles to the mutual intercourse of surrounding nations. The desert of Atacama, extending from Tarapaca in Peru, to Copiapo in Chili, over about 7 degrees of latitude, comprises only a narrow strip of country on the Pacific ocean; the desert of Pernambuco, in the north-eastern part of Brazil, between the St. Francisco and the Seara, is more extensive, but these are both insignificant compared with those of the eastern continent. The wide tract at the eastern foot of the Rocky Mountains, which has been called the American Desert, and a similar tract, between 25° and 40° S. lat., at the eastern base of the Chilian mountains, are traversed by large rivers, and produce an abundant vegetation. It has accordingly been estimated that the amount of useful soil in the Americas is at least equal to that of the Old World; for while at least *two-thirds* of the *latter* is entirely unproductive, and much of the remaining third is poor, not less than 10,000,000 square miles of the former are not only productive, but for the most part highly fertile.

SECT. II.—*Natural Geography.*

SUBSECT. 1.—*Geology.*

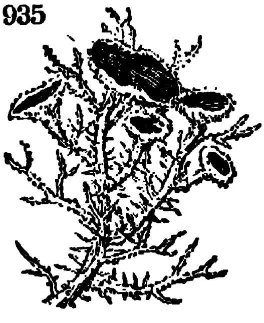
The Geology of this continent can only be properly described under the heads of its respective countries.

SUBSECT. 2.—*Botany.*

Of all the quarters of the globe, America offers, unquestionably, the most interesting field to the botanist, extending, as it does, from beyond the Arctic Circle in the north, nearly to the Antarctic Circle in the south, and including a vast range of mountains, the most remarkable in the world, whether considered relatively to their height or their extent; for they literally stretch from one extremity to the other of the whole continent, and in such a manner as to divide it into two very unequal portions, the eastern and the western; thus forming a line of separation between the vegetation of the respective sides, more distinct than that constituted by many degrees of longitude. In relation to other extra-European countries, it may be said that a considerable part of the American territories has been explored by the man of science. North America can boast of Kalm, Bartram, Michaux, Pursh, Bigelow, Torrey, Elliott, Nuttall, Darlington, Boott, and Schweinitz, who have most successfully investigated the botany of the United States. Richardson, Drummond, and the officers of the various arctic expeditions, Lady Dalhousie, Mrs. Sheppard, and Mrs. Percival, have satisfactorily ascertained the vegetable productions of Canada and of the Hudson's Bay Company's territories to the eastward of the Rocky Mountains (or the Cordillera of North America); while the coast of the opposite side, washed by the Pacific Ocean, has been explored by Menzies, Chamisso, Douglas, and Scouler. The botany of Mexico has been described by Humboldt and Scheide. The name of the former highly-gifted individual is intimately connected with the tropical parts of South America, and almost all we know of the plants of the old and extensive kingdom of New Granada is from his labours and those of his companion Bonpland, and their predecessor, Mutis. Peruvian and Chilian botany were long considered the peculiar province of the Spanish literati, and we owe much to the investigations of Ruiz and Pavon; but still more, perhaps, to the indefatigable exertions of Haenke, Cruckshanks, Bertero, Pöppig, Cuming, Mathews, Bridges, Jameson, Hall. and Gillies; the latter, indeed, extending his researches into extra-tropical America, in the latitude of Mendoza, from the Atlantic to the Pacific Oceans. Brazil, whose productions seem inexhaustible, has had the good fortune to be explored by Spix and Martius, Auguste St. Hilaire, Pohl, Mikan, Sellow, and already affords, perhaps, the most splendid flora of any spot of the globe. Casual, indeed, have been the visiters to the more southern parts and adjacent islands of the vast continent under consideration, and few the observations we can make upon them; nor, indeed, will our limits allow us to enter, as we could wish, upon the more particular nature of the vegetable products of any part of America.

The most remote land, the Ultima Thule of the southern hemisphere that has been yet explored, constitutes a group of islands, called New South Shetland, lying off the southern extremity of America, in lat. 65°. "None of these islands," says the enterprising Captain Weddel, "affords any vegetation, save a short straggling grass, which is found in very small patches, on spots where there happens to be a little soil. This, with a moss similar to what is found in Iceland, appears in the middle of January, at which time the islands are partially clear of snow." The eye of the botanist would, perhaps, even here, discover some curious plants; though, undoubtedly, the majority of them, as in the highest northern latitudes, would prove to belong to the families of Mosses and Lichens, and probably are not dissimilar to those of the coldest parts of the South American continent. A few specimens, hastily gathered on the islands, have, indeed, though in a very imperfect state, come into our possession: amongst them, a Polytrichum without fruit. A very beautiful Lichen appears to be common there, bearing large deep chestnut-coloured fructifications. This is described by Dr. Torrey, in *Silliman's American Journal of Science*, under the name of Usnea fasciata (*fig*. 935.), and is figured in *Hooker's Botanical Miscellany*, vol. i. t. 14.; where its great similarity with the Usnea melaxantha of the Andes of Peru, and the U. sphacelata of the arctic regions, is noticed. It is the same Lichen, probably, which is noticed by Lieutenant Kendal, when speaking of Deception Island, one of this group, in lat. 64°. "There was nothing," he says, "in the shape of vegetation, except a small kind of lichen, whose efforts seem almost ineffectual to maintain its existence, among the scanty soil afforded by the penguin's dung." Several very interesting plants have recently been gathered on Terra del Fuego and the Straits of Magellan, by the late expedition to survey these coasts, under the command of Captain King, but are unfortunately yet unpublished; so that although the straits just mentioned are now much frequented by English and American vessels engaged in the seal-trade, almost nothing is known of their vegetation. Sir Joseph Banks landed on the main island of Del Fuego, in the Straits of Le Maire. As he approached the shore, he met with sea-weeds of a most enormous size; one of them in particular (*Fucus giganteus*), having leaves four feet long, and with stems, though not thicker than a man's thumb, yet 120 feet long. On shore, Sir Joseph and his party gathered upwards of 100 species of plants; among them several stems of a Wild Celery and Scurvy Grass (*Apium antarctitum* and *Cardamine antiscorbutica*); the famous Winter's Bark (*Drymis Winteri*) (*fig*. 936.), so called from its having been first discovered in Terra del Fuego by Captain William Winter, the companion of Sir Francis Drake, who in 1579 introduced this plant to the knowledge of European physicians as a valuable tonic, more especially useful in scurvy; it is, however, wholly neglected in the practice of physic: the Canella alba (a tropical aromatic plant, which is totally different from it) having been confounded with it in the shops, and no quantity having been brought to Europe, except as a curiosity, till the return of the ships under Captain Cook. Living individuals of this interesting plant are, we believe, in the garden of Mr. Lowe, at the Clapton nursery. The trees were found to be chiefly of one kind, a species of Birch (*Betula antarctica*), the stem of which is from thirty to forty inches in diameter, so that, in case of necessity, they might supply a ship with topmasts. The Fagus antarctica might likewise be employed as timber. Cranberries were also found in large quantities, both white and red.

935



Usnea Fasciata.

936

Winter's Bark.

In the Straits of Magellan, the Evergreen Beech (*Fagus betuloides*) grows in the greatest abundance, and reaches a very large size. Trees of this species, three feet in diameter, are abundant; of four feet there are many, and Captain King says there is one tree (perhaps the very same noticed by Commodore Byron) which measures seven feet in diameter for seventeen feet above the roots, and there divides into three large branches, each of which is three feet thick. Many of these fine trees, owing, perhaps, to the coldness of the schistose subsoil, are decayed at the heart. Captain King observed but few other timber trees in the Straits, besides the Evergreen Beech just mentioned. Such an appellation only belongs to the other species of Beech, and the Winter's Bark. The last, which is also evergreen, is to be found mixed with the first in all parts of the Straits, so that the country and hills, from the height of 2000 feet above the sea to the very verge of high-water mark, are covered with perpetual verdure, which is peculiarly striking in those places where the glaciers descend into the sea; the sudden contrast in such cases presenting to the view a scene as agreeable as it seems to be anomalous. Vegetation, indeed, appears to thrive most luxuriantly, and large, woody-stemmed trees of Veronica and Fuchsia, such as in England are treated as tender green-house plants, are in full flower, within a very short distance of the base of a mountain covered for two-thirds downwards with snow, and with a temperature at 36°. What is still more remarkable, these spots are frequented by parrots and humming-birds, the former feeding upon the seeds of the Winter's Bark, while the latter have been seen chirping and sipping the sweets of the Fuchsia and other flowers, after two or three days of constant rain, snow, and sleet, during which the thermometer has been at the freezing point.* The Fuchsia certainly was rarely found but in the sheltered spots; but not so the Veronica (*V. decussata*); for the inlets of the bays on the west side of St. John's Island at Port San Antonio are lined with trees of the latter, growing even in the very wash of the sea. This is the character of the vegetation in the middle of the strait. Towards the western extremity, the decomposition of the granite and other primitive rocks which are found there forms but a poor unproductive soil; so that, although the land is thickly covered with shrubs, they are all small and stunted, the most luxuriant of them seldom attaining a larger diameter than nine or ten inches. On the eastward, clay predominates, and from Cape Negro to the open sea not a tree is to be found; only small shrubs and grasses are seen: the former thinly scattered over the extensive plains which characterise this region; but the latter are abundant, and, although of a harsh and dry appearance, must be nourishing, for they form the chosen food of numerous and large herds of guanacoes.

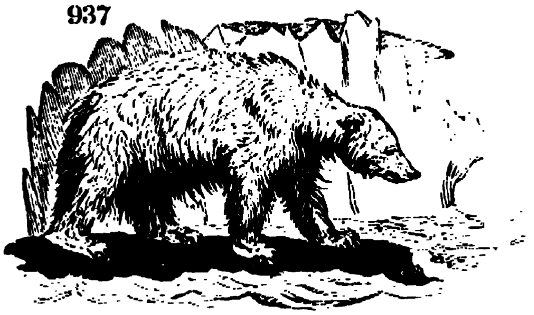
SUBSECT. 3.—*Zoology.*

The Zoology of the New World is as distinct from that of the Old, as the animals of Australia are from those of Africa and the Indian Islands. There is also a curious analogical resemblance between these two insular continents deserving notice. The northern latitudes of America present us with many of the animals of Europe and Asia; and the faunas of these three divisions unite in the arctic regions. The Zoology of Australia, in like manner, assimilates to that of Southern Africa and the Indian Islands; or rather, may be said to borrow many of the animal forms common to both. But to what zoological province of the world its southern extremity approximates, is still unknown; and this is precisely the case with America. Upon this question, involving many points of high importance to geographic zoology, we shall not at present dwell; since the only information which might lead to any satisfactory results, namely, a systematic list of the animals of Patagonia and Terra del Fuego, still remains to be supplied.

The Zoology of America embraces the productions of such a vast and diversified region, that we must consider it more in detail under three divisions; namely, the arctic or northern, the temperate or intermediate region, and the southern or tropical; a fourth might be made to embrace the regions towards Cape Horn; but the animals of these latitudes, as before observed, are very imperfectly known.

In the arctic or northern division may be included those frigid regions commencing between 55° and 60° of north latitude, and extending to the shores of the Frozen Ocean; and we may name the great Polar Bear (*fig.* 937.) as the typical animal of these regions. The above demarcation, however, is named from conjecture more than from positive evidence; for it is much more natural to conclude that, if any zoological peculiarities attach to the arctic regions of America, they would commence beyond the farthest points in this direction, which are annually visited by the migratory or summer birds of the United States. Many of these are well known to breed in Canada; while the more recent zoological researches of Dr. Richardson, in higher latitudes, prove that the migrations of these birds extend beyond the latitude of 60° N. It seems, therefore,

937



The White or Great Polar Bear.

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* See King's Geography of Terra del Fuego and the Straits of Magellan, in the *Journal of the Royal Geographical Society* vol i. p. 169.

highly probable that the ornithological features of Arctic America are confined to much narrower limits than we have here assigned; and that these limits do not extend farther south than the "Barren Grounds" and "Prairies" of the arctic navigators, those extensive plains which appear to be the chief residence of the Canadian Grouse (*Tetrao canadensis*) (*fig.* 938.), and other species of the family peculiar to this continent. The second volume of the Northern Zoology has put us in possession of numerous facts on the ornithological geography of these regions; although much still remains to be discovered before these facts can be generalised. In the mean time we shall avail ourselves of the valuable information already communicated by this enterprising traveller, relative to the ferine inhabitants of Northern and Arctic America.

938

Canadian Grouse.

The quadrupeds of these regions, according to Dr. Richardson, are geographically distributed in the following districts, under which they will be briefly noticed:—1. The remote islands of North Georgia. 2. The shores of the Polar Sea, and the Barren Lands. 3. New Caledonia. 4. The Rocky Mountains. 5. The Prairie Lands. 6. The Limestone District. 7. The Eastern District.

(1.) In the islands of North Georgia, situated in lat. 75° north, there are only the nine following species of mammiferous animals, of which five are carnivorous and four herbivorous. The first two are only summer visitors; they arrive on Melville Island towards the middle of May, and quit it, on their return to the south, in the end of September.

Bos moschatus. Musk Ox.
Cervus Tarandus. Carabou Deer.
Ursus maritimus. Polar Bear.
Gulo luscus. Wolverine.
Mustela erminea. The Ermine.
Canis lupus. American Wolf.
Vulpes lagopus. The Arctic Fox.
Georychus hudsonius. Hudson's Bay Leming.
Lepus glacialis. Polar Hare.

(2.) The quadrupeds of the shores of the Polar Sea are the same as those inhabiting the Barren Grounds. This name has been applied by the arctic voyagers to that north-east corner of the American continent bounded to the westward by the Coppermine River, the Great Slave and other lakes, to the southward by the Churchill or Missinippi River, and to the northward and eastward by the sea. The rocks of this district are primitive, rising only into low hills, with a few stunted shrubs in the valleys; but the soil in general is a dry coarse sand, so poor as to afford no other vegetation than lichens. These dreary and dangerous wastes are destitute of fur-bearing animals. The abundance of lichens supplies the favourite food of the small Carabou, or American Reindeer, and the Musk Ox, both of which animals are here common. The following quadrupeds are likewise found in the Barren Grounds:—

Ursus arctos? americanus. Barren Ground Bear.
Ursus maritimus. Polar or Sea Bear.
Gulo luscus. Wolverine.
Putorius erminea. Stoat, or Ermine.
Putorius Vison. Vison Weasel.
Lutra canadensis. Canadian Otter.
Canis lagopus. Hare Indian Dog.
Vulpes fuliginosa. Sooty Fox.
Fiber zibethicus. The Musquash.
Arvicola xanthognathus. Yellow-cheeked Mouse.
Arvicola pennsylvanicus. Wilson's Mouse.
Arvicola borealis. Northern Mouse.
Georychus trimucronatus. Back's Leming.
Georychus hudsonius. Hudson's Bay Leming.
Georychus grœnlandicus. Greenland Leming.
Arctomys Parryi. Parry's Marmot.
Lepus glacialis. Polar Hare.

The first eight on this list are more or less carnivorous or piscivorous; and prey much upon the remainder, which are herbaceous.

(3.) The district of New Caledonia, on the west of the Rocky Mountains, was not visited by Dr. Richardson; but, from the notes of Mr. Harmon, its zoology presents some peculiarities. The summer is never very warm, and in winter the snow is sometimes five feet deep. This, Mr. Harmon imagines, is the reason why none of the large animals, except a few solitary ones, are to be met with. The quadrupeds are not numerous. The Moose Deer is scarce, and the Black Bear more so. The lesser species consist of Beavers, Otters, Lynxes, Fishers, Martens, Minks, Wolverines, Foxes of different kinds, Badgers, Polecats, Hares, and a few Wolves. The birds are Swans, Geese, Cranes, Ducks of several kinds, and Partridges. The Canadian Goose (*Anas canadensis*) (*fig.* 939.) is here called a Bustard: it appears to be common, and has long been domesticated in both continents. All the lakes and rivers are well furnished with excellent fish.

939

Canadian Goose.

(4.) The animals found on the Rocky Mountains are thus enumerated by Dr. Richardson:—

Vespertilio subulatus. Say's Bat.
Sorex palustris. American Marsh Shrew.
Ursus americanus. American Black Bear.
Ursus ferox. Grisly Bear.
Gulo luscus. Wolverine.
Putorius erminea. Stoat, or Ermine.
Putorius Vison. Vison Weasel.
Mustela martes. Pine Marten.
Mustela canadensis. Pekan, or Fisher.
Lutra canadensis. Canadian Otter.
Felis canadensis. Canadian Lynx.
Castor fiber. American Beaver.
Fiber zibethicus. The Musquash.
Arvicola riparius. Bank Meadow-Mouse.
Arvicola xanthognathus. Yellow-cheeked Mouse.
Arvicola nova-boracensis. Sharp-nosed Mouse.
Georychus helvolus. Tawny Leming.
Neotoma Drummondii. Rocky Mountain Leming.
Mus leucopus. American Field Mouse.
Arctomys empetra. Quebec Marmot.
Arctomys pruinosus. The Whistler.
Arctomys Parryi. Parry's Marmot.
Arctomys guttatus. Spotted Marmot.
Arctomys lateralis. Say's Marmot.
Tamias quadrivittatus. Four-banded Squirrel.
Tamias hudsonius. Chickaree Squirrel.
Pteromys sabrinus (alpina). Severn River Flying Squirrel.
Hystrix pilosus. Canada Porcupine.
Lepus americanus. American Hare.
Lepus glacialis. Polar Hare.
Lagomys princeps. Little Chief Hare.
Cervus alces. Moose Deer.
Cervus tarandus? Carabou Deer.
Cervus macrotis. Black-tailed Deer.
Capra americana. Rocky Mountain Goat.
Ovis montana. Rocky Mountain Sheep.
Bos americanus. American Bison.

The country lying between the Rocky Mountains and the Pacific is in general hilly; but the wide plains on the upper arms of the Colombia are inhabited by the same kind of animals as occur on the Missouri plains. These are principally as follows:—

Ursus ferox. Grisly Bear.
Canis latrans. Prairie Wolf.
Vulpes cinereo argentatus. Kit Fox.
Meles labradoria? The Braro.
Cervus macrotis var. a. Black-tailed Deer.
Cervus leucurus. Long-tailed Deer.
Aplodontia leporina. The Lewellel.

The Bisons are supposed to have found their way across the mountains very recently; they are still comparatively few, and very locally distributed.

(5.) The fifth geographic district comprehends those extensive plains, termed Prairies, lying between the foot of the Rocky Mountains and the Limestone District subsequently noticed. These lands are in general level, and the traveller, when crossing them, must direct his course by the compass or by the stars, as an Arab would traverse the Great Desert. The soil, however, although dry and sandy, is tolerably fertile; as it supplies a thick sward of grass, which furnishes food to immense herds of the Bison. This abundance of pasture renders these plains the favourite resort of various ruminating animals, and the Buffalo and Wapiti abound. The following list will better exhibit these peculiarities:—

Ursus ferox. The Grisly Bear.
Canis latrans. The Prairie Wolf.
Vulpes cinereo-argentatus. Kit Fox.
Arctomys Ludovicianus. The Wistonwist.
Arctomys Richardsonii. Tawny Marmot.
Arctomys Franklinii. Franklin's Marmot.
Arctomys Hoodii. Leopard Marmot.
Geomys talpoides. The Mole Sand Rat.
Lepus virginianus. Prairie Hare.
Equus caballus. The Horse.
Cervus alces. Moose Deer.
Cervus strongyloceros. The Wapiti.
Cervus macrotis. Black-tailed Deer.
Cervus leucurus. Long-tailed Deer.
Antelope furcifer. Prong-horned Antelope.
Bos americanus. American Bison.

The fur-bearing animals also exist in the belts of woods, which skirt the rivers flowing through the plains above-mentioned.

(6.) The sixth district is a very flat limestone deposit, bounded by a remarkable chain of rivers and lakes, among which are Lake Winnipeg, Beaver Lake, and the middle portion of the Missinippi River, &c., all to the southward of the Methy Portage; while its northern confines are marked by the Elk River, Great Slave Lake, Marten Lake, &c. The whole of this district is well wooded, and yields the fur-bearing animals in abundance; the following are found in this tract:—

Vespertilio pruinosus. Hoary Bat.
Sorex palustris. American Marsh Shrew.
Sorex Forsteri. Forster's Shrew.
Condylura longicauda (South parts only). Long-tailed Shrew.
Ursus americanus. American Black Bear.
Gulo luscus. The Wolverine.
Putorius vulgaris. Common Weasel.
Putorius erminea. Stoat, or Ermine.
Putorius Vison. Vison Weasel.
Mustela martes. Pine Marten.
Mustela canadensis. Pekan, or Fisher.
Mephites americana. Hudson's Bay Skunk.
Lutra canadensis. Canadian Otter.
Felis canadensis. Canadian Lynx
Castor fiber americanus. American Beaver.
Fiber zibethicus. The Musquash.
Arvicola xanthognathus. Yellow-cheeked Mouse.
Arvicola pennsylvanicus. Wilson's Meadow Mouse.
Mus leucopus. American Field Mouse.
Meriones labradorius. Labrador Jumping Mouse.
Arctomys empetra. Quebec Marmot.
* Arctomys Hoodii. Leopard Marmot.
* Sciurus Lysteri. The Hackee.
* Sciurus quadrivittatus. Four-banded Pouched Squirrel.
Sciurus Hudsonius. The Chickaree.
* Sciurus Niger. Black Squirrel.
Hystrix pilosus. Canada Porcupine.
Lepus americanus. American Hare.
Cervus alces. Moose Deer.
* Cervus Tarandus (sylv.) The Wood Carabou Deer.
Bos americanus. American Bison.

Those marked thus* are but partially distributed. To this list must be added different varieties of the American Wolf, named the Gray, the Black, the Dusky, and the Pied: together with three varieties of Fox; namely, the Common American, the Cross, and the Black or Silver.

(7.) The seventh or eastern district is formed by a belt of low primitive rocks, extending from the Barren Grounds to the northern shores of Lake Superior. It is about 200 miles wide, and, as it becomes more southerly, it recedes from the Rocky Mountains. It differs from the Barren Grounds principally in being clothed with wood. It is bounded to the east by a narrow stripe of limestone, beyond which there is a flat, swampy tract, forming the western shores of Hudson's Bay: its western limits are the limestone deposit last mentioned, and its native animals are these:—

Sorex palustris. American Marsh Shrew.
Sorex Forsteri. Forster's Shrew.
Scalaps (sp. ignota). An unknown species.
Ursus americanus. American Black Bear.
Ursus maritimus. Polar Bear.
Gulo luscus. The Wolverine.
Putorius vulgaris. Common Weasel.
Putorius erminea. Stoat, or Ermine.
Putorius Vison. Vison Weasel.
Mustela martes. Pine Marten.
Mustela canadensis. Pekan, or Fisher.
Mephites americana. Hudson's Bay Skunk.
Lutra canadensis. Canada Otter.
Felis canadensis. Canadian Lynx.
Castor fiber americanus. American Beaver.
Fiber zibethicus. The Musquash.
Arvicola xanthognathus. Yellow-cheeked Mouse.
Arvicola pennsylvanicus. Wilson's Mouse.
Georychus hudsonius. Hudson's Bay Leming.
Mus leucopus. American Field Mouse.
Meriones labradorius. Labrador Jumping Mouse.
Arctomys empetra. Quebec Marmot.
Sciurus Lysteri. The Pouched Squirrel.
Sciurus hudsonius. The Chickaree Squirrel.
Pteromys sabrinus. Severn River Flying Squirrel.
Lepus americanus. American Hare.
Cervus alces. The Moose Deer.
Cervus Tarandus (sylv.). The Wood Carabou.

To these must be added several varieties of the American Wolf, with the four races of Foxes, called the Arctic, American, Cross, and Black. There seems, also, to be an undetermined species of Badger. The Polar Bear does not go farther inland than about 100 miles over the swampy land which skirts the coast.

To the remaining tribes of the animal kingdom, as the birds, insects, fish, &c. of Northern America, we can devote but little space. It will be sufficient to observe, that most of the European Arctic birds occur in the same latitudes in the American seas. Some, however, are found in these regions which are altogether peculiar to the New World.

Among these latter birds may be noticed the American Tufted Duck (*Anas rufitorques*) (*fig.* 940.), which much resembles the crested duck of Europe: the head, neck, breast, and upper parts are black, and there is a chestnut collar round the neck. The Ruddy Duck (*fig.* 941.), so called from its reddish-brown colour: the crown and neck above is black, the

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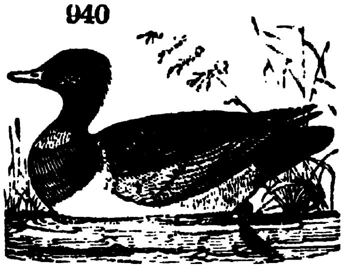
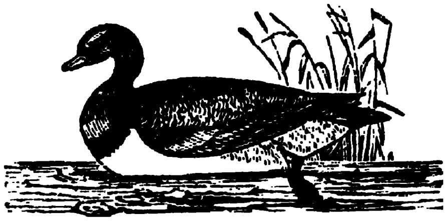


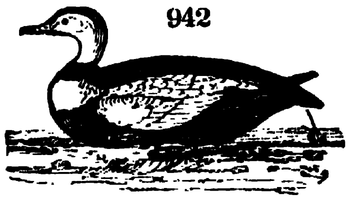
American Tufted Duck.

941



Ruddy Duck.

942

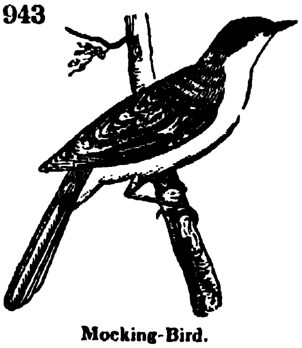


Pied Duck

sides of the head and throat white. But the most elegant of this family is the Pied Duck (*Anas labradora*) (*fig.* 942.), whose plumage is prettily varied with deep black and pure white: it is a truly Arctic bird, being very rare in the middle states, even during winter. Vast flocks of the different sorts of Geese, Ducks, Gulls, &c., common to Arctic Europe, are spread over the whole of these regions. Yet, notwithstanding this similarity in the aquatic tribes, the land birds of the two polar regions are more distinctly marked. The European Great Snowy Owl, the short-eared and the long-eared species, and most of the European Falcons, occur, indeed, in the high American latitudes: but, with the exception of the Crow and the Magpie, there are few among the numerous tribes of perching birds which appear to inhabit both continents. The river fish are also very different.

The second grand division of American Zoology may be supposed to commence towards Canada, and terminate with the Gulf of Mexico; thus embracing the most temperate and healthful regions of the New World. In regard to its ferine inhabitants, little can be said; for, although the species have been described in systems, no traveller has yet taken those comprehensive views of their geographic distribution, which give such an interest and value to our preceding observations on the northern animals. Many of the northern quadrupeds range over a large portion of these temperate latitudes, while the others, not found towards the Pole, do not exhibit any striking peculiarities in the zoological distribution of genera. But the ornithology is more distinctly marked. Numerous tribes of insectivorous birds, unknown in the temperate latitudes of the Old World, or the equinoctial regions of the New, spread themselves over this fruitful portion of America, either as permanent residents or as annual migrators from the more genial shores of the Mexican Gulf. The most celebrated of these is the Mocking-Bird (*Orpheus polyglottos* Swains.) (*fig.* 943.); plain, indeed, in colours, yet endowed with a perfection of voice far surpassing any other in creation. Towards the beginning of May, when the insect world has just begun to assume life and activity, innumerable flocks of Warblers, Flycatchers, Woodpeckers, Starlings, Thrushes, and other families, appointed to keep the noxious insects within due limits, make their appearance in the United States; prodigiously increasing the usual number of the feathered inhabitants, and making the woods resound with their notes. The process of incubation finished, and the young sufficiently grown to undertake their autumnal passage, nearly the whole return to winter in latitudes less cold, and where their animal food does not fail. Very many of these species have been traced to the warm shores and the table-land of Mexico; others appear in some of the West India Isles, the Bahamas, &c.; but not more than one or two have yet been detected on the main land of Equinoctial America. The birds of game, in comparison with those of the northern regions, are few and insignificant; always excepting the Great American Turkey, for it is this part of the New World which first gave us this noble addition to our farm-yards. Increase of population has had its usual effect, and has long driven these birds from many of their former haunts; they still, however, are to be found in large flocks in the back settlements.

943



Mocking-Bird.

Of other animals, there are few which are the same as those of Europe. The Fish are numerous; and several species, like the cod of Newfoundland, occur in sufficient profusion to create a distinct branch of commerce. Reptiles, in point of variety, seem also to abound. Morse has enumerated nearly forty kinds, found in the United States; and Virginia, in particular, produces great numbers. The most formidable of these are the well-known Rattle-snakes, of which there now appears to be more than one species: some few of the others are venomous, but none can be compared, in bulk, with the monstrous serpents of South America. The savannas and swamps abound with immense Bull-frogs, five times the size of the European; while a particular species of Alligator is said to occur in the southern rivers.

The third great division, under which we are to view the Zoology of America, comprises the whole of the Southern Peninsula, from the Gulf of Mexico to the extremity of Paraguay beyond which lie countries never visited by the scientific naturalist. No words can do justice to the splendour, the diversity, or the magnificence of the productions of this luxuriant region. Nature everywhere teems with life, under new and captivating forms, unknown to the naturalist who may be familiar only with the animals of milder climates, or of those distributed in the higher latitudes of the American Continent. This change becomes apparent on the table-land of Mexico; although it may be first traced in the southern parts of Carolina, Florida, and Southern Louisiana.

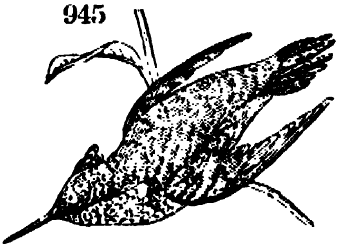
In respect to the Quadrupeds of these regions, our information is brief, vague, and unsatisfactory. Hernandez was sent in the golden days of Spain, towards the close of the sixteenth century, and furnished by Philip II. with an ample salary, to investigate the productions of Mexico; but although he has been styled by some the Pliny of New Spain, his talents were below mediocrity, and both his authority and writings have long ceased to be regarded or quoted. Neither will the brief notices found in Clavigero, and writers of the same period, conduce to any solid information. The tribe of Monkeys begin to appear in Mexico, from whence two species have been recently received; while the increase of the family, both in numbers and variety, is very observable the nearer we approach the Torrid Zone. The different Lynxes of North America give place to the Jaguars, Pumas, Ocelots, and long-tailed Tiger-cats; the two former being the most formidable of the South American ferocious quadrupeds. Bears appear to be unknown, and the largest wild animals are probably the Tapirs. Deer and Antelopes are sparingly scattered; for in this respect America offers a singular contrast to the opposite continent of Africa. Sloths and Armadilloes, on the other hand, characterise the hot countries of the New World, of which the Great Ant-eater (*fig.* 944.) is also a native; while bats, of almost innumerable species, swarm in the brief twilight of a tropical evening.

944

Great Ant-eater.

The Ornithology of Tropical America, as a whole, certainly exceeds, in splendour, that of any other region of the globe. This, in fact, is the chosen metropolis of the Humming-birds, of which near one hundred distinct species are already known to naturalists. Of these, one only (*Trochilus colubris* L.) is generally known throughout North America, where it seems to range over the whole of the United States, returning to the south in autumn. Cold, however, does not appear to affect these little creatures so much as might have been imagined; for Sir Joseph Banks discovered a lovely species (the Ruff-necked, *Selasphorus rufus* Swains.) (*fig.* 945.) in the chilly climate of Nootka Sound. The late Mr. W. Bullock, jun. assured us that, in Mexico, he has travelled through woods of fir, with snow upon the ground, and Humming-birds on the trees. In Brazil, where the thermometer is seldom below 68°, this beautiful tribe is particularly abundant; and Azara describes many others, peculiar to Paraguay. Another group of splendid little Honeysuckers, (*Nectarinea* Ill.), but of which only three or four species are yet known, represent, on this continent, the Sun-birds of Africa (*Cinnyridæ*), and the Honey-feeders of Australia (*Melliphagidæ*.)

945



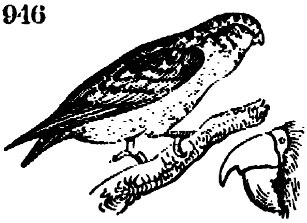
Ruff-necked Humming-bird.

The insectivorous Shrikes (*Thamnophilinæ* Sw.) first appear in the warm humid woods of Carolina, from whence we derive two species. Several others occur in the West India Islands, but hitherto they have not been detected on the table-land of Mexico. As we approach Cayenne, the species rapidly increase, and continue in undiminished numbers, and in great variety, to the most northern parts of Paraguay that have been yet explored. This extensive family, together with the Ant Thrushes (*Myotherinæ* Sw.), seem peculiarly destined to devour insects concealed in foliage; while those tribes which venture beyond are exposed to the numerous tyrant Flycatchers, who are continually darting after insects which fly past the particular station which each individual chooses for itself. In these climates, ants are the universal destroyers; but, had they no enemies, their numbers would increase to a frightful extent. The Ant Thrushes are therefore the counteracting agents:

these little birds live almost entirely upon the ground, in thick forests, and are perpetually feasting upon these insects.

The Parrots, of which only one species, the Carolina Parrot, is found in the United States, constitute a most striking characteristic of the southern regions. Several species occur on the Mexican Cordilleras, but their numbers increase in the less elevated provinces; and, in the low lands of Guatimala, a recent traveller appears to have seen flocks of splendid Macaws. Others of the most brilliant plumage, spread over the whole of Brazil, and even extend to latitudes south of Paraguay. The common green and yellow fronted Parrots seen in this country are all brought from Tropical America, and pass by the general name of Amazonian Parrots. The gray and red-tailed species are nearly the only ones found on the opposite shores of the African continent, a striking instance of the total dissimilarity between the zoological productions of the two regions. The little blue-winged or Passerine Parrot of Brazil (*fig.* 946.) is the smallest of its race; it flies in large flocks, and is not bigger than a sparrow. The abundance of this tribe in the New World is in a great measure explained by this continent being so well clothed with forests and fruit-bearing trees, upon which the whole of the Parrot family depend for food. On the other hand, the chief characteristic of Africa is its bare, sandy soil, and hence the fruit-eating birds of that continent are comparatively few.

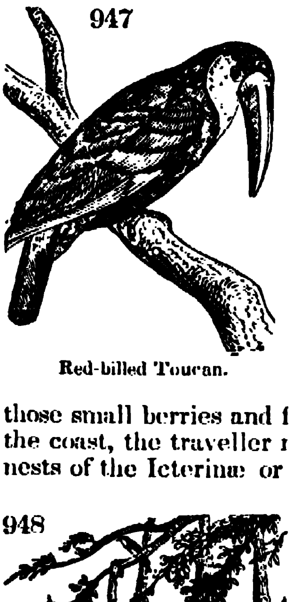
946



Blue winged Parrot.

The Toucans occupy a prominent station in the Ornithology of South America, and extend from Mexico to the southern extremity of Brazil: they are omnivorous birds, feeding both upon animal and vegetable matter. Their enormous bills are nevertheless very light, and, being vascular within, admit of a great developement being given to the organs of smell. By this power, they discover the nests and eggs of other birds, which they are continually plundering. The Red-billed Toucan (*fig.* 947.) is one of the largest species, having the body black, and the throat of a creamy whiteness. The Trogons, the Jacamas, the Hermit Birds (*Monassa* Vieil.), and the Puff-backs (*Tamatia* Cuv.), are all confined to this continent, and feed upon the hosts of insects which always accompany an exuberant vegetation. While these birds are appropriated to winged insects, the Woodpeckers and large Scansorial Creepers (*Dendrocolaptes* Ill.) climb the trunks of trees, and devour those tribes which lurk in the crevices or beneath the bark. Both are particularly abundant, and the latter occur in no other part of the world.

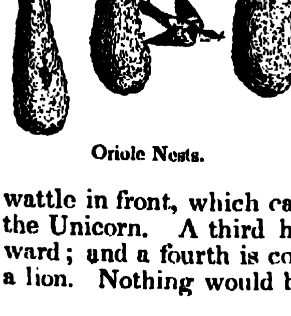
947



Red-billed Toucan.

Among the frugivorous tribes, we must notice the numerous and beautiful family of Tanagers (*Tanagrinæ* Sw.), as peculiar to America: some few species are among the summer visiters of the Northern States, but the chief metropolis of the family is in the equinoctial latitudes, where the vast tracts of table-lands, thinly but universally clothed with low trees and shrubs, supply those small berries and fruits upon which they feed. In the more lofty woods, bordering on the coast, the traveller meets with groves of trees, thickly hung with the long purse-shaped nests of the Icterinæ or Hang-nest Orioles (*fig.* 948.) they form a striking feature in Brazilian scenery, and are woven with great skill by different species, variously ornamented with plumage of a black and golden colour. These birds are chiefly found in the hottest latitudes, although three species are distributed in the United States: like the Tanagers, they live both upon insects and fruits. The Warblers (*Sylvicolæ* Sw.), so abundant in the United States, appear almost excluded from latitudes south of Mexico. The Stonechats and Wagtails are likewise unknown; the first being supplied by the Ground-peckers (*Opethiorhynchus* Tem.), and the latter by the Water-chats (*Fluvicolinæ* Sw.).

948

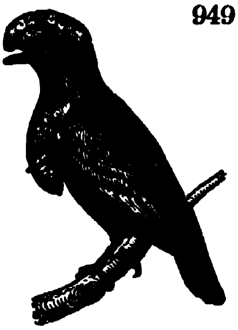


Oriole Nests.

The most decided fruit-eating birds are of those superb genera composing or representing the Chatterers (*Ampelidæ* Sw.). Many are as big as crows, and exhibit singular deviations from the usual form of birds. One (*Cephalopterus ornatus* Geoff.), the Umbrella Chatterer (*fig.* 949.), has a large crest of feathers on its head, resembling an umbrella. Another has a pendulous wattle in front, which can be made to assume something of the appearance of the horn of the Unicorn. A third has a naked throat with numerous fleshy caruncles hanging downward; and a fourth is completely bald, with long feathers round its neck, like the mane of a lion. Nothing would be more curious or interesting than the knowledge of the habits and economy of such strangely formed birds; but all this, at present, is a mystery. We only know that they live in the deep recesses of the forests, and that they are sometimes seen perched upon the topmost branches of the loftiest trees, uttering a loud and strange noise, on the rising and setting of the sun.

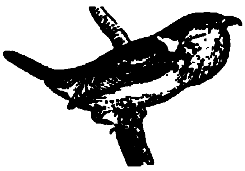
The genuine fruit-eaters, however, form one of the most beautiful groups in tropical ornithology. There are many species, mostly of the size of a thrush, but variegated with the richest shades of azure, purple, and crimson: they are solitary and silent, and must be sought for far from the abodes of men. Others, called Manakins (*Piprinæ* Sw.), are much smaller than sparrows, and live in little flocks in the damp woods, feeding only upon soft berries. Several are conspicuous for their beautiful crimson crests, while one, the Puff-throated Manakin (*Pipra Manacus* L.) (*fig.* 950.), is remarkable for the feathers on the throat being lengthened like a beard.

949



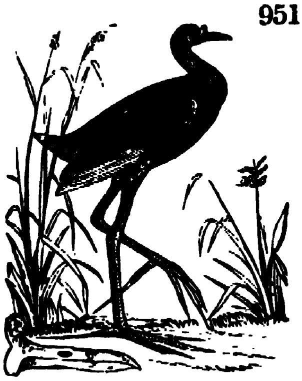
Umbrella Chatterer.

950



Puff-throated Manakin.

951



Spur-winged Water-hen.

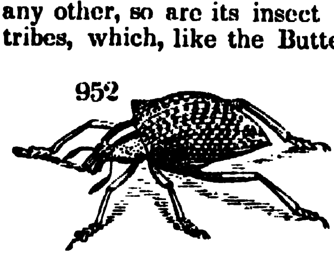
The rapacious birds are numerous and formidable: the chief is the famous Condor of the Andes. The King of the Vultures is conspicuous for its colours, while two or three others, of a black colour, are everywhere found so soon as a carcase is left unburied. The Destroying Eagle (*Aquila destructor* Sw.) exceeds all others in strength; and there are numerous smaller races of Buzzards, Kites, and Falcons, totally different from those of Europe and Africa.

The gallinaceous birds of Tropical America materially differ from those of the north. A magnificent species of Turkey is peculiar to the forests of Honduras; while, towards the equinoctial line, we find the Curassow Birds, Penelopes, Guans, and other large-sized genera, which might, no doubt, be domesticated by the natives. Grouse, Bustards, or Pheasants are not known, and Partridges are very scarce; but the Tinamou occur in great variety. Several of the species exceed the largest dunghill fowl, and the flesh of all is most delicious eating; their tails are so short that they appear to have none.

The water birds are few, from the absence of large lakes, and the partiality of these tribes to more temperate regions. The marshes are frequented by Jacanas, or Spur-winged Water-hens (*fig.* 951.), several sorts of Tiger-bitterns, and a few ducks, of species not known in the Northern States. The lakes of Mexico, however, appear to be profusely stocked with Waterfowl, comprising many of those common species so abundant in Europe and Northern America. But we must no longer dwell upon this charming portion of American Zoology, the investigation of which occupied two of the happiest years of our life.

To enumerate even the tribes of splendid insects which render the Entomology of Tropical America far superior to that of any region in the world, would, in this slight sketch, be impossible. As this continent exhibits a more varied and dense vegetation than any other, so are its insect productions more numerous and brilliant, particularly in those tribes, which, like the Butterflies and Moths, derive their food from leaves and flowers.

952



Diamond Beetle.

The Diamond Beetle (*Curculio imperialis* L.) (*fig.* 952.) is one of the most splendid of insects; and, before Brazil was accessible to European travellers, was so rare as to be sold at a high price. Carnivorous insects, and also such as feed upon dead animal matter, are very thinly dispersed. Ants are the universal removers of all such offensive substances as are too small for the food of Vultures; and the diminutive size of these little agents is amply compensated by the inconceivable myriads of their numbers. The Cochineal is nearly the only insect which has been turned to great commercial account. The Honey Bee of Europe is unknown, but there are several wild species of this family whose honeycombs are formed in trees, and much sought after by the natives.

Of domestic animals the list is scanty; the Horse and Mule, originally brought by the Spaniards from the old continent, are the most universally used in the new, where they have multiplied prodigiously. The immense numbers of wild oxen in the plains of Buenos Ayres are well known: these also are of European descent. Nor does Southern America produce any native animal of equal size, the largest being the Tapirs, while the Lama and three or four kindred species are principally confined to the Andes of Peru and Chile.

The genera and sub-genera of quadrupeds more peculiar to the New World are these:—

Monkeys.
Ateles *Geoff.*
Lagothrix *Humb.*
Mycetes *Ill.*
Cebus *Cuv.*
Callithrix *Ill.*
Aotus *Ill.*
Pithecia *Ill.*
Hapale *Ill.*

Bats.
Phyllostoma *Cuv.*
Vampyrus *Spix.*
Glossophaga *Geoff.*
Artibeus *Leach*
Monophyllus *Leach*
Mormoops *Leach*
Thyroptera *Spix*
Noctilio *Geoff*
Proboscidea *Spix*

Molossus *Geoff.*

Ursus *Lin.*
Procyon *Cuv.*
Nasua *Desm.*
Cercoleptes *Cuv.*
Meles *L.*
Gulo *L.*
Didelphis *L.*
Cheironectes *Cuv.*

Castor *L.*
Echymys *Cuv.*
Myopotamus *Desm.*
Arctomys *Cuv.*
Spermophilus *Cuv.*
Pteromys *Cuv.*
Spigurus *Cuv.*
Erethizon *Cuv.*
Hydrochaerus *Erx.*

Aperea *Marcg.*
Dasyprocta *Ill.*
Cœlogenus *Cuv.*
Bradypus *L.*
Dasypus *L.*
Myrmecophaga *L.*
Dicotyles *Cuv.*
Tapirus *Ill.*
Auchenia *Ill.*

Antelopes. (Cervus Antilope *L.*)
Alce *Ham. Smith*
Rangifer *Smith*
Elaphus *Smith*
Mazama *Smith*
Subulo *Smith*
Dicranocerus *Smith*
Aplocerus *Smith*

The genera and sub-genera of birds belonging to the American Continent, independent of such as occur in Europe, Asia, or Africa, are as follows:—

Rapacious Birds.
Vultur *L.*
Polyborus *Vieil.*
* Harpyia *Cuv.*
* Morphnus *Cuv.*
Cymindis *Cuv.*
* Harpagus *Vig.*
* Elanus *Lav.*

Perching Birds.
Fissirostres.
Prionites *Ill.*
Trogon *L.*
Galbula *L.*
* Monasa *Vieil.*
Tamatia *Cuv.*
Chætura *Stev.*

Tenuirostres.
Trochilus *L.*
Cynanthus *Sw.*
Phæthornis *Sw.*
Campylopterus *Sw.*
Lampornis *Sw.*
Nectarinea *Ill.*

Scansores, or Climbers.
Dendrocolaptes *Ill.*
Xiphorhynchus *Sw.*
Dendroplex *Sw.*
Anabates *Tem.*
Xenops *Ill.*
Sittasomus *Sw.*
Lochmias *Sw.*
Sclerurus *Sw.*
Oxyurus *Sw.*
* Thriothorus *Vieil.*
Oxyrhynchus *Tem.*
Malacolophus *Sw.*
Melanerpes *Sw.*
Colaptes *Sw.*
Asthenurus *Sw.*
Macrocercus *Vieil.*
Saurothera *Vieil.*
Crotophaga *L.*
Ramphastos *L.*
Pteroglossus *Ill.*

Sturnidæ. Starlings.
Quiscalus *Vieil.*
Scaphidurus *Sw.*
Icterus *Sw.*
Xanthornus *Sw.*
Cassicus *Sw.*
Agelaius *Vieil.*
* Sturnella *Vieil.*

Fringillæ. Finches.
* Guiraca *Sw.*
Tiaris *Sw.*
Ammodramus *Sw.*
Pipillo *Vieil.*

Tanagrinæ. Tanagers.
* Tardivola *Sw.*
Tanagra *L.*
* Ramphopis *Vieil.*
* Lamprotes *Sw.*
* Nemosia *Vieil.*
* Oinolas *Sw.*
* Pyranga *Vieil.*
Tachyphonis *Vieil.*
* Arremon *Vieil.*
Euphonia *Vieil.*
Aglaia *Sw.*
Phytotoma *Mol.*
Loxia *L.*
* Corythus *Cuv.*

Sylviadæ. Warblers.
Culicivora *Sw.*
Synalaxis *Vieil.*
* Sialia *Sw.*
Opætiorhynchus *Tem.*
Sciurus *Tem.*
Trichas *Tem.*
Setophaga *Tem.*
Sylvicola *Sw.*
* Vermivora *Sw.*
* Mniotilta *Sw.*
* Zosterops *V. & H.*
Parus *Lin.*
* Hylophilus *Tem.*
* Egithina *Vieil.*

Merulidæ. Thrushes.
Donacobius *Sw.*
Icteria *Vieil.*
Orpheus *Sw.*
Grallaria *Vieil.*
Myothera *Ill.*
* Formicivora *Sw.*
* Drymophila *Sw.*
* Urotomus *Sw.*
Dasycephala *Sw.*

Laniadæ. Shrikes.
Thamnophilus *Vieil.*
Cyclaris *Sw.*
Tyrannus *Bris.*
* Saurophaga *Sw.*
* Milvulus *Sw.*
* Tyrannula *Sw.*
* Ptiliogonys *Sw.*

Todidæ. Fly-catchers.
Fluvicola *Sw.*
Nengetus *Sw.*
Alecturus *Vieil.*
* Platyrynchus *Desm.*
Todus *Desm.*
Psaris *Cuv.*
Pachyrhynchus *Sw.*
Querula *Vieil.*

Ampelidæ. Fruit-eaters.
Procnias *Hoff.*
Phibalura *Vieil.*
Ampelis *L.*
Casmorhynchus *Tem.*
* Gymnocephalus *Geoff.*
* Cephalopterus *Geoff.*
Rupicola *Cuv.*
Pipra *L.*
Vireo *Vieil.*

Columbidæ. Pigeons.
* Ectopistes *Sw.*
* Peristera *Sw.*
* Chamæpelia *Sw.*

Rasores. Gallinaceous Birds.
Meleagris *L.*
Odontophagus *Vieil.*
Ortyx *Stev.*
Crypturus *Ill.*
Rhea *Brisson.*
Ourax *Cuv.*
Crax *L.*
Penelope *Mer*
Ortalida *Mer.*
Opisthocomus *Hoff.*

Grallatores. Wading Birds.
Phosphia *L.*
Aramus *Vieil.*
Cancroma *L.*
Mycteria *L.*
Ereunetes *Ill.*
Eurypyga *Ill.*
Palamedia *L.*

The number of ornithological groups, which thus belong exclusively to the American continent, appears greater than those of any other geographic division of the globe; but it is proper to remark, that very many appear to be sub-genera, besides those which have been actually reduced to that station (marked*): on the other hand, there are several genera, defined by us in another work (North. Zool. vol. ii.) that are here omitted for want of space.

Sect. III.—*Historical Geography.*

The history of America, prior to its discovery by Europeans, can be the subject of little more than conjecture. It appeared long a mystery how this continent, separated from the Old World by oceans of such vast breadth, should have been found peopled from one extremity to the other. The difficulty has vanished, however, since the modern discovery, that, at its north-western extremity, it is separated from Asia only by a narrow strait, and connected by chains of islands; and even the imperfect traditions that have been collected seem to confirm that it was in this channel that the tide of migration flowed. It is barely possible, that some vessels may have been driven by stress of weather across the Atlantic; and it has even been supposed that a country, in which the Norwegians from Iceland formed a settlement, was part of America; but, after examining the details upon this last subject, we consider the inference extremely doubtful.*

The discovery by Europeans forms the real commencement, for us, of American history. This naval achievement, the most splendid in modern times, was performed not by the power of any of the great nations, but by one high-minded individual, with difficulty collecting the scanty means requisite. In 1492, Christopher Columbus, sailing in search of a shorter passage to the East Indies, landed at San Salvador, one of the Bahamas, and, sailing onwards, discovered the greater islands of Hispaniola and Cuba. His next voyage, in the following year, enabled him to discover others of the West Indian group; and his third, in 1498, brought him in view of the continent of America, at the mouth of the Orinoco. Meantime, in 1497-8, John and Sebastian Cabot, employed by Henry VII. of England, not only discovered Newfoundland, but navigated along a considerable extent of the coast of North America. Cortereal, a Portuguese nobleman, in 1501 discovered the mouth of the St. Lawrence, and sailed along the coast of Labrador, as far, seemingly, as the entrance of Hudson's Bay. In 1500, Alvarez Cabral, when sailing to India, came unexpectedly in view of the coast of Brazil. Vesputio and Ojeda had by this time explored nearly the entire circuit of the shores of the Gulf of Mexico. Thus, in ten years after Columbus had set foot on American ground, nearly the whole of the vast length of that continent from north to south had been traced by European navigators. In twenty years more, the South Sea had been discovered by Balboa; and the conquests of Cortez and Pizarro had made Europeans acquainted with a large portion of the western coast. In 1519, the grand and first circumnavigation by Magellan ascertained the southern boundaries of the continent; but its northern limit, and the communication on that side between the Atlantic and the Pacific, though a subject of eager interest, with a view to the hoped-for north-west passage, long defied the most strenuous efforts made by Europeans, and particularly by British navigators; and the discovery was reserved for the present age.

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* [The doubts of the author are founded upon the supposition that the Scandinavian settlements were on the east coast of Greenland; but since recent examinations have fully proved that it was the western coast upon which their colonies were established, there can be no longer any room for disputing their claims to the discovery of the eastern coast of North America, in the beginning of the 12th century.—Am. Ed.]

The conquest and colonisation by Europeans acted most powerfully on the destiny of both worlds, and particularly of the new one. It was attended, in the first instance, with a series of cruelty and iniquity, of which there is, perhaps, no similar example in history. The natives of the West India islands, where the Spaniards first landed, were entirely exterminated, and there remains scarcely a trace of their existence. The people of Mexico and Peru, though their lot was not quite so dreadful, were exposed to remorseless cruelty, and reduced to degrading bondage. Even in North America, where the settlers were actuated by more just and humane principles, the fierce temper of the natives themselves, with the introduction of pestilential diseases, and of ardent spirits, to which they soon became passionately addicted, has extirpated them almost as completely as a war of extermination. The steps taken for filling up the blank thus occasioned in the population of the New World have been almost as inhuman as those by which it was produced. The unfortunate natives of Africa were in vast numbers purchased, seized, crammed into the holds of slave-ships, and conveyed across the Atlantic; so that the negro population of the New World amounts now to several millions. We are happy, however, to state, that within the last century there has been a mitigation of all the wrongs which America had endured from Europe, and even an anxiety to repair them.

The emancipation of the European colonists in the New World from the dominion of, and from all dependence upon, the mother country, is a grand event, which has distinguished the last half century, and given the world a new aspect. It is remarkable that this great movement originated with the British colonies, the best governed of any, and whose grounds of complaint were venial when compared to those which the others could reasonably advance. Their determination, however, joined to the extent of the territory, and the aid of European powers jealous of British ascendency, enabled them completely to succeed. Their independence was recognised by Britain in 1783, and they have since formed a great and prosperous state, rapidly growing in numbers and wealth. The southern states, subject to Spain and Portugal, had ample grounds of discontent, which fermented in the minds of the people; who, however, inured to the yoke, would have been long, probably, in attempting to shake it off, had not, in 1808, the family of Napoleon usurped the throne of Spain. The colonies, secured by British maritime ascendency, repelled this claim, and, while they professed allegiance to Ferdinand, declined to acknowledge the provisional government established in the mother country. The Cortes, however, claimed the same supremacy as before; and as they were supported by all the Americans of Spanish origin, a long and desperate struggle was maintained. It issued, however, in the complete independence of all the great states on the continent of America, Spain retaining only her insular possessions. Even Brazil has been separated from Portugal on the condition of being governed by a different branch of the house of Braganza. Thus Europe retains her dominion only over the West India islands, over the Guianas in South America, over a large extent of North America still held by Britain, and a smaller one claimed by Russia. All the rest is held by people of European origin, indeed, but who, born and educated in America, consider themselves as entirely belonging to that continent.

SECT. IV.—*Inhabitants.*

The population of America has been very differently estimated by different writers; but, although we have not the same precise data for determining the number of the inhabitants in all parts of the New World, as are afforded by the official enumerations made in the United States, we are no longer likely to be led astray by calculations which would people this continent with 300,000,000 souls (the estimate of Riccioli), or 150,000,000 (the estimate of Lalande); nor can we consent with Busching to reduce the number to 13,500,000, or even with Volney to 20,000,000. If we combine the results of the best estimates with those of actual enumerations, we shall find that the whole population of the two Americas, with their dependent islands, cannot vary much from 42,000,000, as follows:—

Russian America	50,000	New Grenada	1,680,000
Danish America	110,000	Venezuela	900,000
British America	2,150,000	Equator	650,000
United States	12,866,000	Peru	1,700,000
Spanish Islands	1,050,000	Bolivia	1,300,000
Hayti	600,000	Chili	1,400,000
French America	240,000	La Plata	700,000
Dutch America	114,000	Uruguay	70,000
Swedish America	16,000	Paraguay	250,000
Mexico	8,000,000	Brazil	5,000,000
Guatimala	2,000,000	Independent Indians	1,400,000

Of this number about 16,000,000 may be whites; 10,000,000 of the aboriginal races; 8,000,000 negroes; and 8,000,000 mixed races, as mulattoes, zamboes, &c.—The whites are chiefly English in the north, and Spaniards in the south, with some French, Portuguese, Germans, Dutch, Danes, Swedes, &c.—The negroes are Africans, whom the cupidity of the European races have dragged into slavery, or descendants of the earlier victims of a barbarous traffic. The aboriginal population consists of two distinct races, the Esquimaux, inhabiting the maritime districts of the arctic regions, and the copper-coloured Indians, who are spread over all the rest of the continent. The question as to the origin of this last mentioned race, although often discussed, has never been, and probably never can be, solved, and is, perhaps, beyond the province of history. Notwithstanding some partial differences of complexion and stature, we have high authority for asserting that a strong family character pervades the Indian nations. "The Indians of New Spain," says Humboldt, "bear a general resemblance to those of Canada, Florida, Peru, and Brazil. We find the same swarthy and copper colour, straight and smooth hair, small beard, squat body, long eye with the corner directed upward toward the temples, prominent cheek-bones, thick lips and expression of gentleness in the mouth, strongly contrasted with a gloomy and severe look. Over a million and a half of square leagues, from Cape Horn to the river St. Lawrence and Behring's Straits, we are struck at the first glance with the general resemblance in the features of the inhabitants. We think we perceive them all to be descended from the same stock, notwithstanding the prodigious diversity of their languages. In the portrait drawn by Volney of the Canadian Indians, we recognise the tribes scattered over the savannahs of the Apure and the Carony. The same style of features exists in both Americas."

In their civil and social state, however, in their manners, institutions, modes of life, arts, and degree of civilisation, we find a great diversity. The most remarkable and best known of the civilised nations are the Mexicans or Aztecs, the Muyscas or inhabitants of Cundinamarca, and the Peruvians or Quichuas; to whom we must add the Mayas, Quiches, and Kachiqueles of Central America; the Natchez, and probably the unknown founders of those vast works that cover the valley of the Mississippi, of North America, and the Araucanians of the southern peninsula. Some of these nations are now extinct, and the institutions of others have been supplanted by those of their conquerors. The traditions of the Aztecs point back to Quetzacoatl, as the founder of their civilisation, the inventor or teacher of the arts with which they were acquainted. Bochica fills the same place in the traditions of Cundinamarca; while the simple inhabitants of Cuzco venerated the memory of Manco Capac and Mama Ocello, his wife, as children of the sun, who came among them to teach the women how to spin, and the men how to till the ground, and established peace, order, and religion among a barbarous people. The government of the Aztecs was a sort of feudal monarchy, in which the nobles and priests monopolised the power, the mass of the people being mere serfs attached to the soil. The Muyscas were governed by two chiefs, like the cubo and the dairi of the Japanese; one spiritual, who resided at Iraca, and was an object of veneration and pilgrimages, and the other political, an absolute king, called zaque, residing at Tunja. The Peruvian government was a theocracy of the most despotic character; the sacred Incas, descendants of the sun, were at once temporal and spiritual sovereigns, and the people, or children of the earth, were kept in a state of complete servitude, living according to minute regulations which reduced them to mere machines, labouring in common, and holding no property. "The empire of the Incas," says Humboldt, "was like a great monastic establishment; there prevailed a state of general ease with little individual happiness; a resignation to the decrees of the sovereign, rather than a love of country; a passive obedience without the courage for great undertakings; a spirit of order, which directed with great minuteness the most indifferent acts of life, but no expansion of mind, no elevation of character." The religion of the Peruvians and Muyscas was Sabeism, or the worship of the heavenly bodies, and, although it appears to have occasionally required human victims, was of a less barbarous character than that of the Aztecs, whose hideous deities were often propitiated with human blood.

The Aztecs had neither tame animals, nor money, nor artificial roads; but they were acquainted with the arts of weaving cloth, of working metals, of hewing stone, of carving in wood, and of modelling in soft substances. Their teocallis were generally built of clay and unburnt bricks, but they were sometimes faced with stone, skilfully sculptured in relief. Their method of picture-writing, though rude compared with the alphabets of the nations of the Old World, was superior to any thing else found in the New, and enabled them to transmit intelligence and to record events with sufficient distinctness. Their calendar was more accurate than that of the Greeks and Romans, and evinced a degree of scientific skill that has created suspicions of a foreign origin. The Quichuas on the other hand, who employed the llama as a beast of burden, constructed roads of great extent and solidity, built suspension bridges of a most ingenious kind, formed chisels of a hard alloy of copper and tin, understood the art of moving large masses, and excelled the Aztecs in the perfection of their masonry, were inferior to the latter in their mode of computing time, and in their method of recording events; for although they possessed a rude sort of picture-writing, they made little use of it, and it is uncertain how far their quippos or knotted cords (which are common to many other American nations) were suited to the transmission of the annals of past times.

Having given this imperfect account of American civilisation, let us now cast a glance on the bold and terrible traits of the barbarous tribes. Roaming in small bodies from place to place in search of food; seeking a precarious subsistence from the natural productions of the forest, or the waters; owning no domestic animals; cultivating but imperfectly, if at all, the soil; half clad in skins or entirely naked; practising no arts but those of the first necessity; passing their lives in stupid inaction or in the fierce excitement of savage warfare; ignorant of the past, improvident for the future, many of the American tribes seemed sunk in the lowest state of misery. The condition of the savage nations who occupied our own soil, is well described by an experienced and accurate observer of aboriginal character. "At the period of the discovery of North America, the country from Hudson's Bay to Mexico, and from the Atlantic to the Rocky Mountains, was possessed by numerous petty tribes resembling one another in their general features, but separated into independent communities, always in a state of alarm and suspicion, and generally on terms of open hostility. They were in the rudest state of society, wandering from place to place, without science and without arts, without metallic instruments, without domestic animals, raising a little corn by the labour of their women with a clamshell or the scapula of a buffalo, devouring it with savage improvidence, and subsisting during the remainder of the year upon the precarious supplies furnished by the chase and by fishing. They were thinly scattered over an immense extent of country, fixing their summer residence upon some little spot of fertile land, and roaming with their families and their mat or skin houses, during the winter, through the forests in pursuit of the animals necessary for food or clothing. Their numbers never could have been considerable, for their habits could exist only in a boundless forest, and among a sparse population; where each family requires a deer, an elk, or a buffalo for its daily consumption, the herd which is to supply the demand must occupy an extensive district of country. Their eternal hostilities often occasioned a scarcity of provisions, which led to famine and death, and many well-authenticated accounts have reached us of the most frightful sufferings."

Such is a description of one of the many phases which savage life assumed over this vast continent. In warmer climates the natives lived upon fruits or roots; in less genial regions, they were obliged to have recourse to the chase; on the rivers, or along the shores of lakes, or on the sea-coasts, they depended more on fish as their main article of food. In an emergency the Indians do not scruple to feed on serpents, toads, and lizards, the larvæ of insects, and other disgusting objects. Some roast their meat, others boil it; and not only several savage tribes, but even the civilised Peruvians, ate their flesh raw. The Ottomacs, a tribe near the Orinoco, eat a species of unctuous clay, and the same practice has been found to prevail among some tribes of Brazil, and on the borders of the Arctic Ocean. A great number of tribes in Brazil and the basin of the Orinoco, and some in all parts of America, indulge in the horrid banquet of human flesh. Since the introduction of the horse by Europeans, many of the Indian tribes have acquired an astonishing degree of skill in the management of that noble animal; among these are the Pawnees, the Cumanches, the Apaches, the Shoshonees, Enneshoors, and other North Americans, and the Abipons, the Guaycurus, and several other warlike nations of the south. These and other tribes have also borrowed the use of fire-arms from their European neighbours, but in general they have rejected the arts of peace and civilisation.

Throughout the American continent, with some rare exceptions, the woman is the slave of the man; she performs all the menial offices, carries the burdens, cultivates the ground, and in many cases is not allowed to eat or speak in the presence of the other sex. Polygamy is by no means uncommon among the native tribes, but it is often checked by the difficulty of procuring or supporting more than one wife, and some nations do not countenance the practice. Some tribes kill their prisoners, others adopt them into all the privileges of the tribe, and yet others employ them as slaves, in which capacity they are turned over to the women.

Perhaps there is no tribe so degraded that it has not some notion of a higher power than man; and in general the American Indians seem to have entertained the idea of a Great Spirit, a Master of Life, in short, a Creator; and of an evil Spirit, holding divided empire with him over nature; many of them have priests, prophets, sorcerers, in whose supernatural powers they trust, and most, if not all, appear to believe in a future state. Yet it would lead us far beyond our limits to attempt to describe their religions, their modes of government, and their social condition, in detail.

Many attempts have been made by benevolent persons to convert the aboriginal tribes to the Christian religion; to teach them the arts of peace and cultivated life; and to train them to habits of industry: but so little has been the success of these efforts, that many do not hesitate to pronounce it impossible to ingraft the European civilisation on the Indian character. The descendants of the civilised nations of Mexico and South America retain in general the habits and customs of their ancestors, substituting Christian festivals and ceremonials for the barbarous rites of their forefathers. The governments of Spain and Portugal, aided by the devout zeal of several religious orders, have supported missions in Mexico, La Plata, Peru, Brazil, and New Grenada, for more than two centuries; most of these have been lately abandoned in consequence of the recent revolutions in those countries, and seem to have left no traces of their existence. A few friars, or priests, settled among the savages, instructed them in the forms of the Roman Catholic religion, and taught them some of the more useful arts; but these establishments were generally modelled upon the plan of the Peruvian theocracy; the converts were kept under a complete tutelage; the produce of their labour became the common property of the community, which was managed by their religious fathers, and no progress was made in establishing an independent, self-sustaining social system. Such were the celebrated Jesuit missions of the Paraguay and other places. Some doubtful exceptions to this general failure of the attempts to effect the civilisation of the Indians occur in the United States, where some of the Cherokees and other tribes hold property, cultivate the ground, and practise the useful arts.

The political state of America presents some striking features and contrasts. The native tribes, who still survive, are partly held in subjection by European Americans, but the greater number still wander over their extensive wilds, either in rude independence, or ruled, sometimes very despotically, by their chiefs and caciques. The European colonists, who form now by much the most numerous and important part of the population, were long held in subjection to the mother countries, the chief of which were Spain and Great Britain; but the greater part of them, by events which have already been alluded to, have now established their independence. These new states have generally adopted the republican form of government, to which even Brazil, though professedly a limited monarchy, seems strongly inclined. A third political element is formed by the negroes, who are mostly in a state of slavery. A numerous body of them, however, in one of the finest West India islands, have emancipated themselves, and become a free people, while Great Britain has recently bestowed liberty on the large number, by whom her islands are cultivated. There yet remain about five million of black slaves in Brazil and the United States, beside a considerable number in the other European colonies.

Industry and commerce exist throughout America under very peculiar forms. Almost the only traffic of the native tribes consists in the bartering of furs and skins, and some of the natural productions of the soil and the forest, for arms, spirits, toys, and cloth. But the colonies founded by Europeans, having brought with them the arts and industry of civilised life, and found abundance of uncultivated land upon which to employ them, have made a more rapid progress in wealth and population than any other people in ancient or modern times. The want of labourers, however, impelled the Europeans in America not only to treat with great severity the natives of that region, but to open with Africa a cruel trade in slaves, by which many millions of negroes have been dragged from their native country, and doomed to the most severe and degrading toil. The industry of colonial America is almost entirely agricultural, carried on with a view of supplying the markets of Europe with sugar, coffee, cotton, tobacco, and other rich tropical products; in exchange for which, and for the timber, hides, and furs of the more northern and southern regions, the Americans receive all the variety of manufactures which the improved industry of Europe so abundantly produces. The United States, however, have already made great progress in nearly all branches of manufacturing industry, and they have also established a mercantile marine, exceeded in the extent of its transactions and the number of its ships only by that of Great Britain.

The European colonists retain generally the manners and habits of the metropolis, somewhat modified by their peculiar situation. The absence of any old nobility or other aristocratic distinctions has diffused among them a very general feeling of independence and equality, which has been confirmed by the republican institutions now so generally established. The same cause is represented as rendering the tone of society less refined and polished than in Europe. The people, however, have shown themselves active and enterprising, fully capable of availing themselves of all the advantages which their situation presents. Even the Spanish-Americans, who, while under the sway of the mother country, were accused of voluptuous indolence, have shown no want of energy, either in the struggle for independence, or in the internal contests which have since unfortunately continued to distract them.

The negroes born in slavery or imported from Africa, and held in bondage, have scarcely room to display any decided character. They retain, in general, the rude habits and superstitious ideas of the land of their origin, joined often to warmth of heart and amiable feelings. Even those who have obtained emancipation, being still held as a despised and inferior caste, can scarcely obtain that self-respect which is the parent of many of the virtues; yet they display none of the inaptitude of the red men for civilisation, and, under favourable circumstances, afford pleasing instances of ingenuity, industry, and forethought.

Many of the indigenous tribes have become, at least in name and outward forms, converts to Christianity; but a great number still cherish the crude notions and rude ceremonials of their native faith. The European-Americans have commonly retained the religious creed of the mother country, so that while in the French, Spanish, and Portuguese colonies the Roman Catholic is the prevailing religion, those countries that have been settled by English colonists are chiefly of the Protestant persuasions. The negroes have generally been instructed in the elements of Christianity. The whole number of Roman Catholics may be estimated at about 25,500,000; of Protestants 15,000,000; of unconverted Indians 1,500,000; in this estimate, however, the negroes are considered as belonging to the denomination embraced by their masters.

SECT. V.—*Languages of America.*

No part of the world presents so great a number of languages spoken by so few individuals, as the American continent. According to Balbi, who has summed up the labours of his predecessors with great industry, more than 438 languages, and 2000 dialects, are here spoken by about 10,000,000 indigenous natives; if this calculation is correct, about one half of all the known languages in the world are spoken by one eightieth part of the population of the globe. In the midst of this prodigious diversity of dialects, a remarkable analogy of structure has, however, been found to pervade the American languages, as far as they are yet known; and Mr. Duponceau has classed them all in one genus, to which he has given the name of polysynthetic, descriptive of their remarkable powers of composition. No class of languages equals the American in its astonishing capacity for expressing several ideas and modifications of ideas in one word; and those idioms of naked savages are not less regular and complicated in construction than rich in words. "From the country of the Esquimaux to the Straits of Magellan," says Humboldt, "mother-tongues, entirely different in their roots, have, if we may use the expression, the same physiognomy. Striking analogies of grammatical construction are discovered, not only in the more perfect languages, as that of the Incas, the Ayemara, the Guarani, the Mexican, and the Cora, but also in languages extremely rude. It is in consequence of this similarity of structure, that the Indians of the missions could learn the tongue of a different tribe much more easily, than the Spanish; and the monks had once adopted the practice of communicating with a great number of hordes, through the medium of one of the native languages." Setting aside the European idioms, which have now become predominant in America, and which, comprising English, Spanish, Portuguese, French, Dutch, German, Danish, Swedish, and Russian, are spoken by the great mass of the inhabitants; we shall mention some of the more important of the native languages, beginning at the shores of the northern ocean.

The Esquimaux languages prevail all around the Arctic Sea, from Greenland to Siberia, and have even been introduced into the northern part of Asia. The Karalits or Greenlanders, the Esquimaux tribes on the coasts and islands to the west of Baffin's Bay, the Aglemoutes on the western coast, and the Aleutians in the islands of that name, speak Esquimaux idioms. In the region west of the Rocky Mountains, and north of 40° N. lat., several families of languages occur, with which we are little acquainted. We may mention, however, the Koluche, spoken in the islands, and on the coasts north of Queen Charlotte's Isle; the Wakash or Nootka, in Quadra and Vancouver's Island; the languages of the Lower Columbia, spoken by the Eshceloots, Skilloots, Chinnooks, Clatsops, &c.; those of the Upper Columbia, spoken by the Eneeshoors, Tushepaws, Chopunish or Nez Percé, (Pierced-Noses), Sokulks, &c.; the Multnomah; the Shoshonee, spoken by the Shoshonees or Snake Indians, &c. Many of these tribes are known to the traders under the general name of Flatheads, derived from the singular practice of flattening the heads of their infants by artificial processes.

On crossing the Rocky Mountains, we enter an ethnographical region, which has been more carefully studied by American philologists. Here the family of the Sioux or Dahcotah languages prevails over nearly all the country between the Arkansas, the Mississippi, and the mountains, including the dialects of the Sioux or Dahcotahs, the Winnebagoes or Puants, the Quapaws, the Osages, the Kanzas, the Mahas, the Poncas, the Ioways, the Ottoes, and the Missouries.

A still more remarkable ethnographical family is that, to which the name of Algonquin has been given by Anglo-American scholars. This class of languages seems to have once prevailed over the greater part of the continent north of the Potomac, and east of the Mississippi, being spoken by the Knistineaux or Crees, and the Micmacs of the British territory; the Chippewas or Ojibwas, the Ottawas, the Pottawattamies, the Sacs and Foxes (Ottogamies), the Shawnese, the Kickapoos, the Menomonies, the Miamies, the Delawares or Lenne-Lennapes, and having been once the language of other tribes now extinct, that formerly hunted in the forests to the east of the Alleghany Mountains.

Within the limits partly occupied by the last-mentioned class of languages, the Europeans found the celebrated confederacy of the Five Nations, composed of several kindred tribes, who had subjected to their sway some of the Chippewa nations, but who have since dwindled away before the superior arts of the European race. The Five Nations, called Maquas by the Dutch, and Iroquois by the French, (comprising the Mohawks, Senecas, Onondagos, Oneidas, and Cayugas,) and the Wyandots or Hurons, speak cognate dialects.

Further south prevails the family of the Floridian languages, spoken by the Cherokees, Muscogees or Creeks, Chickasaws, and Choctaws; the Natchez is extinct. The Cherokees, belonging to this family, are the only American nation that have an alphabet of their own.

The Pawnee languages are spoken in several dialects in the vast prairies that stretch from the Red River to the Del Norte, affording in their immense herds of buffalo, horses, and cattle, a plentiful supply of food to numerous warlike and mounted tribes. The Pawnee, Arrapaho, Kaskaia, Ricaree, Towash, and Ietan or Tetan, spoken by the Cumanches or Paducas, are among the dialects of this family.

The Apache language is spoken by the warlike and powerful Apache tribes, whose mounted hordes are in a state of constant warfare, both with the Hispano-Mexicans, and the Cumanches; they roam over the country between the Norte and the Gulf of California.

To the west are the Moquis, Yaquis, Pimas, Yumas, Guazaves, &c., most of whom, speaking languages little known, are peaceable and even agricultural in their habits.

As we approach the great table-land of Mexico, we find the Tarasco, or language of the Tarascos, once masters of a powerful empire, and distinguished for their skill in working the beautiful feather-mosaics that have been so much admired by travellers; and the Othomi, spoken by the Othomites.

The Aztec was the language of that remarkable race, whose monuments and picture-writings still remain to attest their progress in civilisation; while the Totonacs, the Zapotecs, to whom Humboldt attributes the construction of the famous palace of Mitla, the Mixtecs, and the Chapanecs, whose traditions run back to Vodan, the son of a venerable old man, who, with his family, was saved from the general deluge, were civilised nations, speaking each a distinct language.

In Central America, the family of the Maya languages was spoken by the powerful and civilised nations of Mayas, who lived in large cities; the Mams or Pocomams; the Quiches, the most powerful and civilised people of Guatimala, the ruins of whose capital, Utatlan, are still visible; the Zutugiles, and the Kachiqueles, whose capital was the large city of Patinamit. It has also been conjectured that the Maya language was the dialect of the inhabitants of the Great Antilles.

Further south are the Lacandones, the Choles, the Quecchi, the Sambos, the Towkas or Xicacos, the Poyais, the Moscos or Mosquitos, the Populucas, the Cavecaras, the Changuenes, and numerous other tribes of whose languages our information is very imperfect.

South America seems to be the seat of even a greater number of languages than the northern division of the continent. In some cases small clans or single families, living in their little portion of morass or forest, cut off from all intercourse with their neighbours, appear to have distinct tongues; but perhaps a closer examination would show many of these to be dialects of languages extensively prevailing. Martius enumerates upwards of 250 tribes at present found in Brazil.

The Carib family of languages is spoken by the Caribs, the Chaymas, the Cumanogottos, the Tamanacos, the Arawauks, the Guaraunos, and other tribes dwelling on the Orinoco, and formerly occupying the Lesser Antilles. Some of these tribes are skilful sailors, carry on an active trade, are acquainted with the use of the quippos, and carve figures in stone. Higher up the Orinoco the Saliva languages, comprising the Aturo, Quaqua, Piaroa, and Saliva, prevail; while on the head waters of the Guaviare and Negro, the Maypure family comprises the idioms of the Caveres or Cabres, the Achaguas, the Maypures, the Parennes, the Moxos, &c.; and the Yarura is spoken by the Eles, the Beloi, and Yaruras, along the Meta. The Otomacu and Guaypunabi are also among the almost innumerable languages of this region.

The Chibcha or language of the Muyscas of Cundinamarca, was once very extensively diffused by the influence of that powerful people, but it is now extinct.

The Guarani idioms were formerly spoken over the greater part of Brazil from the Andes to the Atlantic, but many of the tribes of this extensive family are now extinct. The most important branches of this class of languages are the Tupi, called also the Brazilian or Lingoa geral, from its general prevalence in the eastern part of Brazil; the Guarani, spoken on the Paraguay and Parana, by the nations who composed the famous Guarani empire of the Jesuits; the Omagua, spoken by various tribes on and near the Amazon, including the

Omaguas, who, from their long voyages on that river, have been called the Phœnicians of the New World, the Tocantines, the Urimaguas, &c.; and the western Guarani, prevailing in the regions of the Chiquitos and Moxos, in the eastern part of Bolivia.

Other languages of Brazil are the Guaycuru, spoken by the Payaguas, Guaycurus, and other tribes on the Upper Paraguay; the Engerecmung, by the ferocious Botocudos of Bahia; the Mundrucu in Para; the Guana, Bororo, &c. in Matto Grosso.

The Quichua or Peruvian language was diffused by the conquests of the Incas from the Maule, in 35° S. lat. to the equator, and is now not only spoken by many tribes of natives from New Grenada to Chili, but also by many Spaniards. The Aymare is also extensively spread in the provinces of La Paz and Chuquisaca.

The Macoby dialects are spoken by the Abiponians on the Parana; the Macobys on the Vermejo, and other tribes of that region; and on the Salado, we find the Lule idioms, spoken by numerous tribes of the Lule and Vilela branches.

In the great Pampas the Chechehets, the Puelches, and the Leuvuches speak kindred languages of the Puelche family; and further south the Tehuelhet is the idiom of the Callilehets, the Tehuelhets or Patagonians, and other tribes of Eastern Patagonia.

The Pecherai or Yucanacu is spoken by several tribes of the Terra del Fuego.

On both sides of the Chilian Andes the Chiliduga is the language of the Moluches or Araucanians, the Huilliches, and the Picunches, kindred Chilian tribes.

CHAPTER II.

CHILI.

SECT. I.—*General Outline and Aspect.*

CHILI, which has been called the Italy of South America, consists of a long narrow band of territory situated between the Andes and the Pacific Ocean. The former, reaching unbroken from the northern to the southern extremity of South America, divides it into two very unequal parts. That on the east consists of plains of almost boundless extent, those of the Orinoco, Amazon, Plata, and of the Pampas; while the western, varying from 150 to 200 miles, is little more than the slope of the mountains downward to the Pacific. Of this western portion, Chili forms nearly the southern half. Its northern boundary is formed by the desert of Atacama, nearly on the tropic of Capricorn, or about 24° S. Mr. Caldcleugh terminates it on the south by the river Bíobío, the frontier of Arauco, a territory whose fierce and warlike tenants always maintained a decided independence; but as the Chilians have to the south the important ports of Valdivia and Osorno, we seem justified, by the authority of Humboldt, in extending Chili to the Gulf of Chiloe, comprising the island of that name, in about 44°. We have thus a length of 20°, or 1400 miles. Chili, however, extends her claim to the southern extremity of the continent, comprising the western part of what is usually called Patagonia. The boundary on the side of Buenos Ayres is formed by a line drawn along the culminant point of the Andes, and through their eternal snows. From this line to the coast of the Pacific must be measured the breadth of Chili, not averaging more than 200 miles. The superficial content is estimated at 172,000 square miles; from which, however, must be taken off the considerable portion held by the Araucanos.

The surface of Chili consists of portions the most strikingly dissimilar, but passing into each other by regular and insensible gradations. Between its mountain and ocean limit is a transition from the frozen to the torrid zone, similar to that which takes place in Mexico and Colombia, though not quite so abrupt. It is remarkable, in a region and range which has excited so much interest, that beyond 18° of S. lat. not a single summit has been measured by any geometrical or physical process. The range of the Chilian Andes seems peculiarly massive and unbroken; and the perpetual snow which covers it to a considerable depth, even at the points chosen as of most easy access, cannot well consist with a height of less than 14,000 or 15,000 feet. From these, according to Molina, three parallel chains descend towards the sea; but it seems more correct to say, that on this extended slope rise many steep eminences and ranges branching in various directions. The foreground of the Chilian landscape consists usually of mountain piled over mountain, and the back-ground of a continuous chain of snowy summits (*fig.* 953.).

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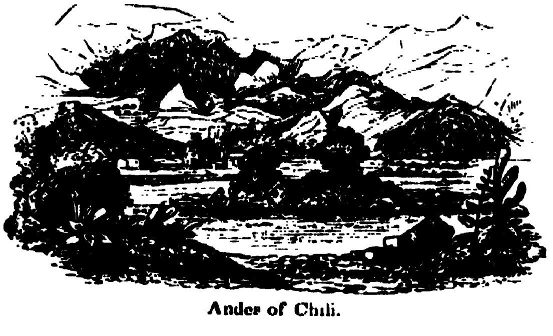

Andes of Chili.

Yet the sides of the mountains are generally fertile and beautiful; foliage and verdure with rich pastures extend even to the border of the perpetual snow, and many of these upper valleys present such romantic and enchanting scenes, that Chili has been called the garden of South America.

It is, however, a heavy misfortune to the Chilians, that the ground is not secure under their feet. There are said to be 14 active volcanoes within Chili, beside several that occasionally or constantly discharge smoke. Repeated earthquakes have laid their cities in ruins; and from time to time shocks are felt, which even when slight are rendered dreadful by recollection and anticipation. The natives distinguish two kinds of shocks; those called tremblores are a kind of horizontal oscillations or rapid vibrations of the earth, which are very frequent, but seldom dangerous. The terremotos are more rare, but more serious in their effects; in these the motion is much more violent; the earth is convulsed, and great mischief is done by the formation of rents in the ground. In 1822, a considerable part of the coast was raised several feet; and in 1835, Concepcion, Chillan, Talcahuano, and many other towns were completely thrown down by the violence of the shocks, of which 300 were counted between the 20th of February and the 4th of March. The sea, after having subsided, returned in a great wave 20 feet high, and swept away what the earthquake had spared; the coast was raised several feet, ships were left high and dry on the shore, the course of the currents was changed, and the soundings diminished. The island of Juan Fernandez was devastated by a great wave, which swept over its lower tracts.

There is no river in Chili deserving the name. The Maule and Biobío are navigable for a short distance. Numberless torrents dash down from the steeps of the Cordillera, but with such rapidity that no boat can navigate their channel, and even in their estuaries the stream is too rapid to allow vessels to find in them a secure harbour. In return, every quarter of the country has the advantage of being at a very short distance from the sea-coast.

Lakes do not prevail in the Andes, the mountains of the chain being too closely wedged together to admit of their formation. That of Aculeo (*fig.* 954.), twenty miles south of Santiago, is distinguished by the softness and beauty of its scenery, and is compared by Mrs. Graham to those on the Italian side of the Alps.

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Lake of Aculeo.

Sect. II.—*Natural Geography.*

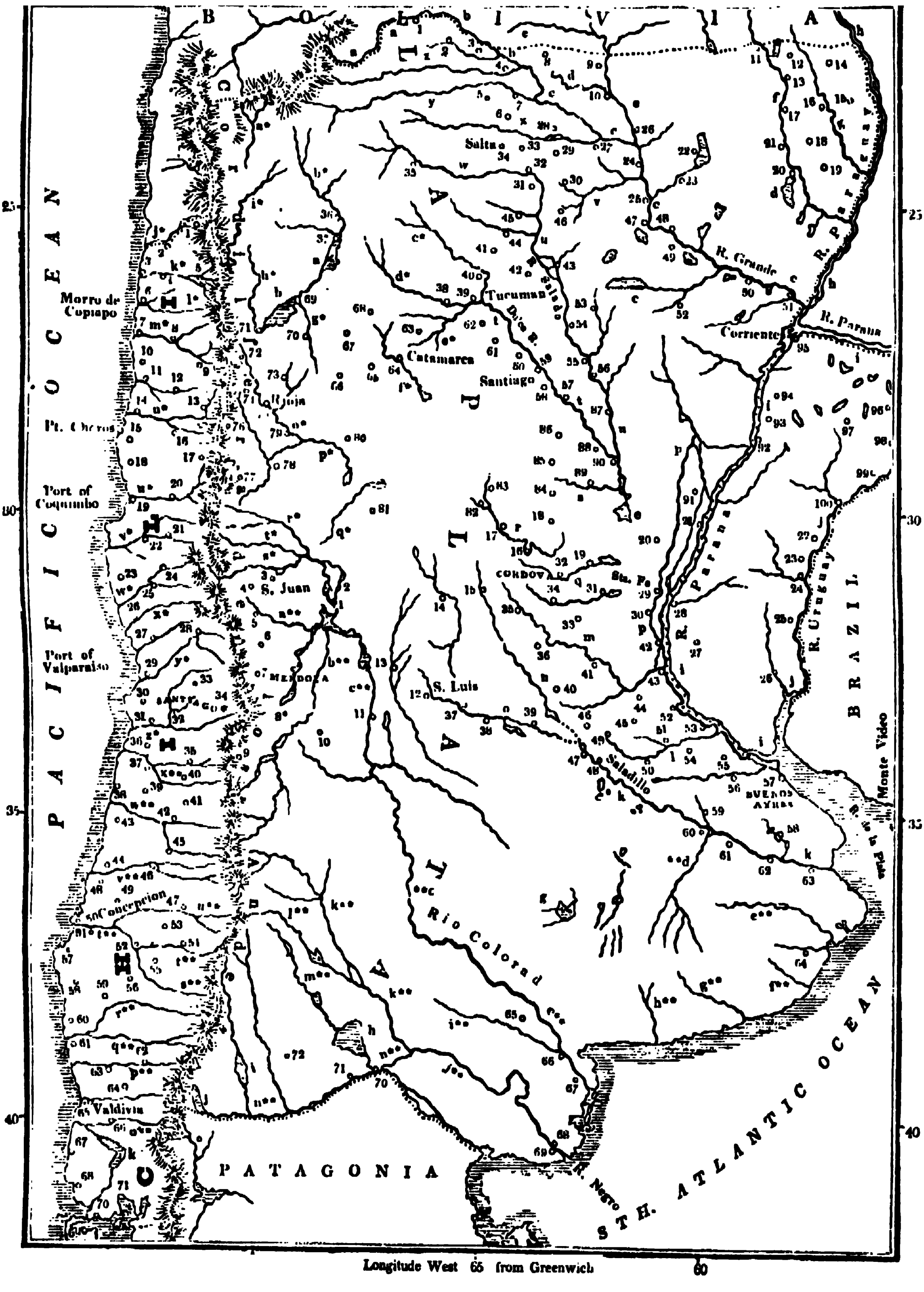
Subsect. 1.—*Geology.*

The central chain of the Cordillera, we are told, is principally composed of the usual primitive rocks, through which there appear projecting, in many places, rocks of volcanic origin. The declivities on the western side abound in porphyries. At Las Pomas, on the eastern side, is a mountain entirely composed of pumice and obsidian. Few countries in the world are so continually and violently agitated by earthquakes as Chili: and these agitations occur principally on the eastern foot of the mountain range; seldom on the western. The most remarkable eruption of the Chilian volcanoes was that of Peteroa, on the 3d of December, 1760, when the volcanic matter opened for itself a new crater, and in a mountain in its vicinity a rent several miles in extent was formed. A large portion of the mountain fell into the Lontue, and, having filled its bed, gave rise to a lake, in consequence of the accumulation of the water. Springs of petroleum flow out in various places on the eastern side, and gypsum also occurs abundantly; limestone in Quillota and other places, and coal near the Bay of Concepcion. Fossil shells are found not unfrequently in the Andes, sometimes at an elevation of 9000 to 14,000 feet above the level of the sea. Deposits of clay, partly tertiary, partly recent, enclosing fossil shells, occur in the maritime provinces on the coast of the Pacific. These clays rest upon a brownish sandstone, which extends as far as the cuesta of Valparaiso, consisting of syenite, and forms the northern offset of the three secondary mountain ranges which branch off from the Cordillera by the cuesta of Chacabuco, and form the three ridges intervening between Santiago and Valparaiso. Similar organic remains are found near the mouth of the river Aconcagua, and on this coast farther north. Dr. Gillies informs us, that on making some excavations in this neighbourhood, several human skeletons were found in the clay in a state of good preservation, intermixed with the shells. The ground was too hard to admit of complete skeletons being procured, even although in good preservation. In the valley above Coquimbo, half a mile wide, are parallel roads resembling those of Glen Roy in Scotland, whose formation is connected with the rising of the land in this part of the New World.

The mineral productions of Chili, according to Dr. Gillies, are very numerous, and many

MAP OF CHILI AND LA PLATA.

Fig. 954.



of them of great value and utility; but its produce in the precious metals has nevertheless been somewhat over-rated. Many of the richest mines cannot be worked under present circumstances. The desert country to the north of Copiapo does not permit the working of the rich mines of gold, silver, and copper at Chuco Cajo, and other parts of that country, as these districts are altogether destitute of water and other necessaries of life. In that part of the country there are also rock salt, and fine statuary marble. To the north of this, in the province of Atacama, are mines of nitre, which have been recently explored; and the produce of this substance has been conveyed in considerable quantities from the port of Cobigo to Europe. In the country between the Bíobío and archipelago of Chiloe are numerous and rich mines; but none of them has been worked since the natives recovered possession of that country. The gold mines in the intermediate provinces are at Copiapo, Guasco, Coquimbo, Peteroa, La Ligua, Tiltic, Putuenda Algue, Huilliputugua, and other places. These were formerly worked to a great extent, but have been less attended to than formerly, since the commencement of the revolution. The richest mines of silver are in the provinces of Copiapo, Coquimbo, and Santiago. In these, the silver is generally found combined with sulphur, arsenic, lead, and other mineral substances; but a few years ago, a rich vein of silver was discovered at Coquimbo of great value, the silver being in the metallic form, and very abundant. Unfortunately, however, the hopes of the discoverers were disappointed on finding it to be of a very limited extent. The silver mines of San Pedro Nolasco, on the south side of the river Maypu, are valuable; but although they have been worked of late years by an Englishman, they have not been so productive as to remunerate the proprietor. They are situated near the summit of a very lofty mountain. The ore is extracted with difficulty from the hard rock in which it is contained, and requires to be carried on mules a distance of from twelve to fifteen miles, to the banks of the river Maypu, where it is reduced by amalgamation. The copper mines are much more numerous and valuable than any of the others, and afford the staple mineral product of Chili. They occur between 24° and 36° S. lat.; but are principally confined to the provinces of Coquimbo and

References to the Map of Chili and La Plata.

CHILI.

1. El Chaca Alto
2. El Chaca Baxo
3. El Juncal
4. Da Ines
5. Juncal Alto
6. Ajojamento
7. Copiapo
8. S. Francisco de Selva
9. P. Negra
10. El Toboratillo
11. El Obispo
12. El Agua
13. Huasco Alto
14. Huasco
15. La Chepica
16. Huasco Baxo
17. Casa de Sul
18. Choros
19. La Serena
20. Duignitos
21. Hunilla
22. Huatulame
23. Matagorda
24. Illapel
25. Chuapo Alto
26. Mincha
27. El Ingenio
28. Aconcagua
29. S. Martin, or Quillota
30. Valparaiso
31. Logrono
32. Santiago
33. Arcay
34. S. Gabriel
35. Trinna
36. S. Pedro
37. Rosario
38. Jevan
39. Punlatigui
40. S. Fernando
41. Curico
42. Jalca
43. Chauco
44. Couleum
45. Candelaria
46. Chillan
47. Tucapel
48. La Palma
49. Yumbel
50. Concepcion
51. S. Rafael
52. Arauco
53. Negreto
54. S. Barbara
55. Milaqua
56. Taquea
57. Pulpalico
58. Mission
59. Puronziejo
60. Yapehue
61. Lainuo
62. Villarica
63. Baxo
64. Cholqui
65. Valdivia
66. S. Fernando
67. Manzano
68. S. Luis
69. S. Carlos
70. El Astellero
71. Calbuco.

LA PLATA.

North Part.

1. Pumayou
2. Cueba
3. Vugia
4. Bolcan
5. Perico
6. Blanco
7. Jujuy
8. F. del Negro
9. Senta
10. Gualdalcazar
11. Cayza Seq. el Massa impreso.
12. Turun
13. Caporo
14. Camaculas
15. Ayeoties
16. Boyaunos
17. Gurrucanos
18. Chilacutiquies
19. Tobetionos
20. Mongolas
21. Guatuas
22. Naparus
23. Jacolaquia
24. Chunpies
25. Amulacs
26. Yacunampas
27. Malhalacs
28. F. de S. Barbara
29. F. S. Felipe
30. F. de Rio del Valle
31. Rodeo de Tala
32. Pasaje
33. F. de Cobos
34. Salta
35. S. Carlos
36. Mustavas
37. Paleipas
38. Lules
39. S. Miguel de Tucuman
40. Bipos
41. Trinco
42. Buenos Castumbre
43. F. Balbuena
44. El Rosario
45. Yastasca
46. F. S. Fernando
47. Callagaes
48. Palamos
49. Tiende Espinosa
50. Dolores y Santiago
51. Ameleloy
52. Frentones
53. Socolonia
54. S. Jose de Patacas
55. Tuquiligasta
56. Matara
57. Pitambala
58. Marugasta
59. Santiago del Estero
60. Ximenes
61. Avinaras
62. Cachuyaco
63. Paquilac
61. S. Fernando de Catamarca
65. Guaycama
66. Capayan
67. S. Fernando
68. Colaria
69. Machigasta
70. Chumbicha
71. Betlen, or Bethlem
72. Angualasta
73. Amilgambo
74. Aminga
75. Rioja de la Nueva
76. Vinchayna
77. Pumastas
78. S. Juan de Jaclun
79. Musinan
80. Simbolan
81. Villa del Valle Fertil
82. Pichano
83. Yquira
84. Durazno
85. Pontezuela
86. Yunta
87. Guanagasta
88. Saladillo
89. S. Miguel
90. Concezione
91. Jesus
92. Santa Lucia
93. Garzas
94. Aldas
95. Corrientes
96. S. Augustin
97. Asuncion
98. S. Fernando
99. Yepeyu
100. S. Pedro.

LA PLATA.

South Part.

1. S. Miguel
2. Ascension
3. S. Juan de la Frontera
4. Leoncilo
5. Los Pedernales
6. Ranchillos
7. Mendoza
8. Carrizalillo
9. F. S. Carlos
10. Tolderia de Cococorto
11. El Bebeden
12. S. Luis de la Punta
13. Yole de la Punta
14. Mercedes
15. Codosa
16. Avala
17. Julian
18. Antiguasi
19. Los Santo
20. F. de Melo
21. S. Xavier
22. S. Gregorio
23. Mandisobi
24. S. Antonio
25. Calera de Barquir
26. Gualequachu
27. Notya
28. Baxada
29. Santa Fe
30. Coronda
31. S. Rosa
32. Cordova
33. Empira
34. Altagracia
35. El Pueblo
36. S. Augustin
37. S. Lorenzo
38. S. Feindo
39. S. Carlos
40. Tegua
41. Sanchez
42. Fort S. Espiritu Santo
43. Rosario
44. Demochadas
45. La Indimeurto
46. Loreto
47. Corzo
48. Galeoto
49. Fortin de Mercedes
50. Fortin d'Aioco
51. Arecivo
52. Orato
53. S. Pedro
54. Ayola
55. La Cruz
56. Luxan
57. Buenos Ayres
58. G. de Ghascomus
59. Fortin de Lobos
60. Melo
61. Mont. de Lopez
62. Garay
63. Ayolas
64. N. S. del Pilar de Puelches
65. Gahuchlahuai
66. Doquelees
67. Lecouchu
68. Forte del Carmen
69. Poblacion del Sur
70. Chahalge
71. Ahauhot.

Rivers.

a Casabindo
b Yaviliguiaca
c Rio Grande
d Ocloyos
e Vermejo
f Pilcomayo
g Flagmagment Empela
h Paraguay
i Parana
j Uruguay
k Saladillo
l Arecive
m Tercero
n Quarto
o Quinto
p S. Thomeque Uaman el Salada
q Pucara
r Primero
s Seco
t Dulce
u Salado
v Caiman
w Arias
x Caldera
y S. Salvador, or Rio Grande de Jujuy
z S. Leon
a* Antiosa
b* Andahuailas
c* Choromorassu
d* Tucuman
e* Hondo
f* Del Valle
g* Chumbicha
h* Betlen
i* Malfin
j* Salado
k* Juncal
l* Chineral
m* Copiapo
n* Huasco
o* Angualasta
p* Famatina
q* Fertil
r* Magna
s* Limari
t* Mendoza
u* Coquimbo
v* Limari
w* Chuapa
x* Quilimari
y* Aconcagua
z* Mapocha
a** Blanco
b** Azequia
c** Moya lee Leuvu, Desaguadero de Mendoza, or Rio Colorado
d** Flores
e** Tandil
f** Ygnacio
g** Gueguen
h** Clarameca
i** Picun
j** Cusu Leuvu
k** Sanquel
l** Longen
m** Pichipicontra
n** Cusu Leuvu
o** Rueno
p** Tolten
q** Penayco
r** Colpi
s** Vergara
t** Biobio
u** Laxa
v** Chillan
w** Maulo
x** Tinguaririca

Lakes

a Paleipa
b Andalgala
c Mataras
d Japayo
e Salados de los Porongos
f Grande
g Salinas
h Grande
i Limite
j Posenmaguisa
k Osorno.

Copiapo. The copper ore is associated with sulphur and arsenic which are separated by smelting. But it is only such mines as contain ore that yields one-half of its weight of pure metal that are worked. About a thousand of these mines were worked in the time of Molina; but since that period, owing to the vicissitudes in the political and commercial condition of the country, the number worked has varied considerably. Of late years, however, owing to the improved commercial practices, this branch of industry has received an increased impulse. The rich and famous copper mine of Payen in the Araucanian country has long been unworked. Mines of quicksilver are stated to exist in Coquimbo, Copiapo, and Limaches. Formerly they were prohibited from being worked, and we do not hear of their having been opened since the restriction was removed. Mines of lead, iron, antimony, and tin are also found in Chili; but none of them are worked so as to be of importance in a commercial view. The secondary range of the Andes, situated on the eastern side of the Cordillera, which now belongs to the Argentine republic, and is called the Uspallata range, is by far the most productive in mineral treasures, and contains the celebrated silver mines of Uspallata and Famatina, besides many others in the same range. In the above tract is the alum mine of Guandacol, where this useful production may be had in great abundance. In it the alum earth is united with soda instead of potassa.

Subsect. 2.—*Botany.*

If we consider the eastern side of South America, in nearly the same latitudes as the western, we shall find a very different vegetation, owing to the extensive chain of the Andes, already noticed, which separates the two countries by a vast natural barrier. The Cordilleras gradually decrease in height as we recede from the tropics. In the neighbourhood of Quito, Chimborazo and Pichincha rear their summits to the height of nearly 22,000 feet above the level of the sea: near Santiago de Chili the highest land is 14,000 feet; farther south, at Concepcion, it is still lower; and at Chiloe, there are few parts of the range exceeding 6000 feet in height. Between Chiloe and the Strait of Magellan, the average altitude may be taken at 3000 feet; but there are some of the mountains that may rise to between 5000 and 6000 feet high.*

One of the most striking features presented on the approach to Chili by the Pacific is afforded by the view of the Andes. "I can conceive nothing," says Mrs. Maria Graham, "more glorious than the sight of the Andes this morning, on drawing near the land at daybreak; starting, as it were, from the ocean itself, their summits of eternal snow shone in all the majesty of light, long before the lower earth was illuminated, when, suddenly, the sun appeared from behind them, and they were lost, and we sailed on for hours before we descried the land." Of the vegetation of these mountains, little is at present ascertained; and that little, collected principally from specimens gathered by Dr. Gillies, Mr. Cruckshanks, Mr. Macrae, and Mr. Cuming, is more interesting to the botanist than to the general reader. The intermediate country between the Andes and the coast is better known; but, as its vegetation passes insensibly into that of Peru, we shall endeavour to give a sketch of the more remarkable features, by some extracts from a journal of Mr. Cruckshanks, very lately published in the second volume of the *Botanical Miscellany*. Chili, and that part of Peru, lying west of the Andes, from their geographical situation and physical structure, offer an interesting field for studying the effect of climate on vegetation. The two countries present a line of coast, extending from 40° S. lat. to within a few degrees of the equator; the great chain of the Andes runs in a direction almost parallel to the coast, and the surface of the intervening country is similar throughout, consisting of ranges of mountains, diminishing in height as they recede from the Cordillera. These mountains, again, are intersected by valleys, varying little from due east and west; thus affording an opportunity of comparing the climate of the coast with that which obtains in the same latitude, varied by different degrees of elevation, from the level of the sea to the verge of perpetual snow.

The chain, or, as it has aptly been called, the great wall of the Andes, exerts a powerful influence on the climate; the great atmospheric current, that, according to the season, flows north or south, and is affected elsewhere by local causes, here being maintained by this elevated barrier in its original direction. The average duration of the rainy season is about five months, from May to October. In the south of Chili, the rains are very heavy, and fall frequently during the six or seven months of winter; but in the latitude of Valparaiso, it is seldom wet for more than two successive days, after which there will be fine weather for a week or two, or much longer. At Coquimbo, there is still less rain; and at Copiapo, the most northern part of Chili, the showers are few and light; while on the coast of Peru, rain is almost unknown, a dense mist being all that ever occurs, though this is dignified with the name of the "rainy season" (*tiempo de los aguacerros*), and the ladies of Lima often complain, after a short walk, of the heavy shower they have been exposed to, in what would be considered, in other climates, tolerably fine weather. Still nearer the equator, this mist diminishes, and the sun is rarely obscured. The gradual decrease of atmospheric moisture from the south of Chili to the north of Peru is a striking feature, and produces a remarkable effect on the vegetation. In Valdivia and Concepcion, where the rain is copious, forests of lofty trees abound, and the earth is generally covered with herbaceous plants, and produces large corn crops without artificial irrigation. From Concepcion is derived most of the timber consumed in Chili and Peru, the following being the commonest trees: the Roble (*Fagus obliqua*), Lingui (*Laurus Lingui*), the Queule (*Gomertiga nitida*), Laurel (*Laurelia aromatica*), Canelo (*Drymis chilensis*), Reuli (?), Avellano (*Quadria heterophylla*), and Litri (*Rhus? caustica*, of Hooker and Arnott in the Botany of Capt. Beechey's Voyage.) The Araucaria, or Chili Pine (*fig.* 955.), is almost confined to the Indian country south of the Biobío, where the natives subsist entirely on its seed, which they harvest and bury in pits for winter use. Its wood is said to be very resinous and close-grained, but brittle; for which reason, probably, it is never exported. Some of the above-named trees are also found in other parts of the country. In the middle provinces, vegetation is less luxuriant, and the woods thin. Trees seldom attain a large size, except in ravines, and many of these are different from those of the south. Those most frequently found on the hills are the Molle, the Boldo (*Boldoa fragrans*), Quillai (*Smegmadermos emarginata*), and Peumo (*Peumos rubra*). The Mayten (*Maytenus chilensis*), Lilen (*Azara serrata*), Litri, and some others, are less common. The Patagua (*Tricuspidaria dependens*), Maqui (*Aristolochia Maqui*), Bellota (*Lucuma valparadensis* of Molina), and Canelo are confined to moist places in the valleys, where many Myrtles are likewise found, of which the Temu and Petra grow to a large size and produce useful timber. When covered with their fragrant white blossoms in early summer, these trees are truly beautiful. The Fuchsiæ (*fig.* 956.) also are confined to moist ground, except F. lycioides, which inhabits the driest spots on the hills. In many places, where the soil is too poor or too dry for other trees, the Espino (*Mimosa Cavenia*) grows; the wood of which is heavy, and much valued for fuel. Near the Andes, the Algaroba, a tree of the same family, is common in similar spots; and large tracts of the hills are often covered with Pourretia coarctata. It is chiefly in the middle provinces that the Palm of Chili (*Micrococcos*) is found. It is not a common tree, being very partial; but several estates owe much of their value to the number of these palms, of which, though the stem is useless, the leaves, sap, and fruit yield a large income to the proprietor. For thatching houses, the leaves are considered the best and most durable material; the sap, boiled to syrup, is used as an agreeable substitute for honey; and the small nuts, about an inch in diameter, of which every tree produces a great number, are highly esteemed, and form a considerable article of export to Peru. A curious method is employed to free the nut from the green husk that envelopes it; a process formerly attended with a great loss of time and much trouble. A number of cows and oxen are driven into an enclosure, where a quantity of this fruit is spread, and, being very fond of its husk, they presently set to work eating the fruit, very slightly masticating it in the first instance, and swallowing it whole; afterwards, while chewing the cud, the nuts are ejected; and when the meal is finished, a heap of them is found, before each of the animals, perfectly free from the husk; the cattle being thus supplied with food at a season when little grass remains on the hills, at the same time that they effectually perform a very useful operation.

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* King in *Journal of the Royal Geographical Society of London*, loco cit

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Chili Pine.

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Fuchsiæ.

In the district of which Valparaiso may be considered the centre, though the surface seems barren, yet pasture abounds during the rains; and near the coast some corn is grown. In the interior, cultivation is confined to the valleys.

The northern provinces have a barren aspect; there are few trees, though plenty of shrubs and beautiful annuals are common in the wet season; but, except in the valleys which are capable of irrigation, there is no culture. The Carbon (*Cordia decandra*) is almost the only tree; its wood is hard and heavy, and used for fuel in smelting copper ore, as are the Talguea and various Cacti, with columnar stems, which grow thirty or forty feet high, and throw out many branches.

SUBSECT. 3.—*Zoology.*

Our information on the Zoology of Chili is very slight: a meagre list of about a dozen birds has been given by one of the modern travellers in this country, but we may consider it as a region unexplored by the professed naturalist. The Lama and Vicugna, two wool-bearing animals of the Andes, are described under the head of Peru: to these we may add three other kindred species, called by travellers the Paco, Chilihuque, and Humel, as natives also of Chili. Two or three new genera of Larks and Lark-warblers, which were supposed to be unknown in South America, have recently been discovered here.

The most celebrated bird is the Condor; while another, called the Plantcutter (*Phytotoma rara* Gm.), is singular, from the bill being toothed like a saw, and used, like that instrument, to cut down plants, that the bird may feast on the tender leaves. More recently has been discovered in this country a new species of Humming-Bird, near four times the size of any other yet known to naturalists: hence it has received the name of Trochilus giganteus, or the Patagonian Humming-Bird. It is only remarkable for its size, since it is without any of those brilliant colours which deck the plumage of its congeners.

SECT. III.—*Historical Geography.*

Chili, when first discovered by the Spaniards, was found in possession of the most active and hardy races of the Indians that people the New World. Almagro, in 1535, penetrated with great difficulty through the mountainous and desert tracts leading to it; but was so disgusted with the hardships and losses which he endured, that, in 1538, he returned to Cuzco. The real founder of Spanish dominion in Chili was Pedro de Valdivia, who, after an obstinate contest of ten years, between 1540 and 1550, subdued the greater part of the country, founded the cities of Valdivia, Concepcion, and Quillota, and established a naval intercourse with Chili. He had then to encounter the warlike Araucanians, with whom the Spaniards sustained that long war, which has been celebrated by Ercilla, the first of the Spanish epic poets. Valdivia was defeated, taken, and put to death by the Araucanian chief, Caupolican; the Araucanians afterwards baffled all attempts to subdue them, and continue to separate the main body of Chili from the southern district of Valdivia.

The dominion of Spain was maintained over Chili, interrupted only by the inroads of the Araucanians. The English made one and the Dutch several attempts to form a settlement; but, not being supported by the natives, they made no lasting impression. Chili, in 1567, was separated from Peru, and placed under a captain-general solely dependent on the king of Spain. It never drew the attention nor rose to the importance of Mexico and Peru; but the produce of its mines, which was considerable, and the many fertile districts which it contained, secured to it a progress in population and wealth, similar to that of the other colonies.

The emancipation of Chili was prepared and produced by the same causes which excited all the other provinces to shake off the Spanish yoke. On the 22d of June, 1810, intelligence was received of the events which had occurred in Europe. The Chilians repelled the demand made by the French government for their submission, and in a few days elected a new governor and a junta of administration. This ostensible act was designed, as in other instances, to keep the sovereign power for Ferdinand VII.; but it was not long ere a general disposition arose to embrace the opportunity of shaking off the oppressive yoke of Spain and the European Spaniards. In April, 1811, a national congress was summoned, and the independence of the country seemed in a favourable train. A force, however, was sent from Peru to re-establish the royal cause, which, being aided by the disunion of the patriot generals, defeated them, though after a brave resistance, and drove them over the Andes towards Mendoza. They were there received and supported by San Martin, governor of that city. That enterprising and remarkable person now took the lead in the revolution of south-western America. He assembled a considerable force, with which he crossed the Andes, and, being joined by the great body of the Chilians, soon compelled the royal troops to take refuge in the port of Concepcion. The governor of Peru, however, being now determined to make a grand effort, assembled almost all his disposable troops, to the amount of 5000 men, and sent them to reinforce those already in Chili. The patriot force was at first defeated and driven back; but, being rallied by the zeal and abilities of San Martin and O'Higgins, it met the enemy on the plain of Maypó, and gained a complete victory; which finally secured the independence of Chili. San Martin was even encouraged to advance into Peru, the capital of which country he succeeded in occupying; though its liberation, as we have seen, did not then prove to be final. O'Higgins became director of Chili; but, endeavouring, to rule by a self-elected senate, he became unpopular, and was obliged to yield to Don Ramon Freire, under whose auspices a general representative congress was called. Chili has ever since formed a republic completely independent of Spain, though not without a good deal of interior agitation.

Sect. IV.—*Political Geography.*

The political system of Chili is in a vacillating and uncertain state. The congress was to be composed of deputies chosen on the principle of direct election, and of one deputy for every 15,000 inhabitants. A considerable disposition seems to prevail for a federal form of government.

The finances are not in the most flourishing condition. According to the statements in Mr. Caldcleugh's Appendix, the customs yielded 1,100,000 dollars, and all the other revenues 200,000; making a total of 1,300,000 dollars. The annual expenses of the province of Santiago amounted to 1,026,948 dollars; of Concepcion, 360,000; of Valdivia, 180,000; expenditures caused by the loan, 400,000: in all, 1,966,948 dollars; making the heavy deficit of 666,948 dollars. A loan, the capital of which was 1,000,000*l.* sterling, was raised in London in 1822.

The army, under the pressure of circumstances, has been supported on a large scale, compared with the population and resources of Chili. That country sent into Peru, in support of the patriotic cause, no less than 7500 troops, who had been well disciplined, and who proved brave and effective. Besides these, about 3000 remained in the country. The militia consists chiefly of cavalry, who are ill disciplined, but brave, and admirable riders.

The navy, though it distinguished itself under Lord Cochrane, never formed any considerable force, comprising only one ship of sixty guns, two or three of fifty, with some corvettes and gun-brigs. Being old ships purchased from Britain, and having been in hard service, they are now considerably decayed, and the present state of the Chilian resources will probably prevent much being done to repair them.

Sect. V.—*Productive Industry.*

Agriculture is carried on extensively, though with very rude implements, of the same form with those that were introduced 300 years ago. The plough is only a piece of knee timber, shod at one end with a flat plate of iron, into which a long pole is fixed by means of wedges. It proceeds amid the trees, of which only the trunks are cut off. A bundle of fresh branches serves for a harrow, made heavier, if necessary, by stones, or by one or two men placed upon it. The cart is formed of canes and straw floored and bound with hide, without a single nail or piece of iron. The only pains bestowed upon the land is irrigation, rendered absolutely necessary by the eight months of dry weather in the year; the fields being crossed by canals fed by a stream common to the neighbourhood. Wheat has been hitherto the chief object of agriculture; its quality is fine, though small-grained, and there is a regular demand for it in Peru, Guayaquil, and the other equatorial tracts. Potatoes, in this their native soil, grow in perfection; pumpkins, lettuces, and cabbages are reared with care and success; and fruits, with but very little culture, are produced in profusion and of excellent quality. A good deal of wine is made, though not of the first excellence; the flavour of the best somewhat resembling Malaga. That exquisite vinegar, which derives its name from Chili, is made from the juice of a grape peculiar to the country. The greatest extent of ground, however, is laid out in cattle farms, which are managed with great success. The horses are small, but beautiful, and of fine temper and spirit, so that they are preferred to those of Buenos Ayres. The oxen and mules are equal to any in the world; but, as the latter do not amount to the number required for crossing the Andes, a further supply must be brought from Mendoza. Agriculture, as in Mexico, is much impeded by the enormous grants which were made to individuals at the time of the conquest; yet it is stated, that in many districts fine land may be obtained at the rate of a dollar for two acres.

The manufactures, as over all South America, consist only of coarse articles made by the country people for domestic use, with the simplest instruments. From Mrs. Graham we learn, that they bring to market ponchos, hats, shoes, coarse shifts, coarse earthenware, and sometimes jars of fine clay.

Mining is the branch of industry for which Chili has been most celebrated, but it is not the source of her most substantial wealth. The mines occur in the interior from Coquimbo, in a barren tract in the northern part of the country. The metals are gold, silver, and copper. The latter is by far the most abundant, there being many hundred mines of it; the others are much rarer, and, as they attract more speculators, generally answer much worse: hence, the common saying is, that if a man finds a copper mine, he is sure to gain; if it be silver, he may gain or he may not; but if it be gold, he is sure to lose. In consequence of the great expense of first opening a mine, the discoverers, who are often poor, are usually obliged to have recourse to habilitadores, a class of rich individuals resident in the cities, who supply the funds necessary for working the mine, while the owner delivers to them the produce at a fixed rate, calculated to yield them a large profit. Captain Hall estimates the annual average produce of copper at 60,000 quintals, which, in 1821, was worth twelve dollars the quintal; that of silver, 20,000 marks, at eight dollars each; that of gold, trifling, and diminishing. But from the returns made at a more recent period by the British consuls, it appears that, while in the twenty years ending with 1809, the produce of the Chilian mines was, in gold, of the value of 4,000,000 dollars, and in silver of that of 4,500,000, it had increased during the same number of years ending with 1829, to 9,000,000 dollars, worth of the former, and 4,000,000 of the latter. At present the average produce of both the gold and silver mines may be estimated at about 8,500,000 dollars. The northern mines are situated in a bleak and barren country; and many of them are in very rugged and inaccessible situations; none so much so as that of San Pedro Nolasco, on a lofty pinnacle of the Andes, where the snow, even in summer, lies from 20 to 120 feet deep, and in the winter its drift is so tremendous that the miners have been buried under it 150 yards from their own house. The southern mines are in a more fertile state; but, on the whole, by the reports of Messrs. Head and Miers, it seems that, for the reasons already stated in respect to the La Plata provinces, there is no prospect of any increase, or of any advantage to compensate the application of English capital. Mrs. Graham conceived the machinery brought out by Mr. Miers to be 100 years in advance of the present state of the country. A very fine vein of coal has been found near Concepcion, which has begun to be shipped from that port for other parts of Chili, and even for Peru.

Commerce in Chili labours under great difficulties from its extreme remoteness; since it is separated by about half the circumference of the globe from the civilised countries of Europe, Asia, and even North America. It has, however, a very extended sea-coast; and, to the bold skill of modern navigation, the circuit of the globe is scarcely more arduous than a Mediterranean voyage was 100 years ago. The principal articles of export from Chili to Great Britain, the United States, and India, are the precious metals from Valparaiso, Coquimbo, Huasco, and Copiapo. From the latter ports are shipped large quantities of copper, and from Valparaiso of hides. The chief exports from Concepcion are timber, wheat, flour, and fruits, principally to Peru. Chili imports flour, cottons, furniture, tobacco, &c., from the United States, manufactured articles of all descriptions from Great Britain, silks, wines, perfumery, &c., from France, spices, tea, sugar, coffee, &c., from other countries. "Four or five small vessels," says Lapérouse, "bring yearly from Lima, tobacco, sugar, and some articles of European manufacture, which the miserable inhabitants can only obtain at second or third hand, after they have been charged with heavy duties at Cadiz, Lima, and in Chili." At present the annual value of the trade with Great Britain is about 5,000,000 dollars, and of that with the United States, 2,500,000 dollars, exclusive of the supplies to the whalers and other ships. Beside their dealings with Europe, the Chilians have also a considerable trade with Peru, to which, as already mentioned, they export wheat, flour, &c.; they have also, notwithstanding the formidable obstacles opposed by the Andes, a considerable trade with Buenos Ayres.

Fishing is neglected by the Chilians, though many fine species are found in their seas. The shell-fish are particularly delicate.

Artificial communications remain still in a very imperfect state. A good road was lately made from the capital to Valparaiso, but it is not kept in complete repair. The cross roads, as Mrs. Graham describes them, are not such as in England would be considered passable, though she has seen worse in the Apennines.

Sect. VI.—*Civil and Social State.*

The population of Chili is more involved in doubt than that of any state of South America. *Humboldt states, from Spanish authorities, that a census, in 1813, gave 980,000, and that the present amount is probably 1,200,000. More recently, Mr. Caldcleugh and Mr. Miers* have estimated it only at about 600,000; but this seems to have been founded on very superficial observation; and the best informed persons, who have penetrated into the interior districts, do not believe it to fall short of 1,500,000.

The social state of Chili differs scarcely by a shade from that of the rest of Spanish America. There is the same native courteousness, politeness, kindness of heart, ignorance, extravagant love of diversion, abject superstition, and propensity to quarrelling. This last passion, which among the lower orders is fed chiefly by a resort to pulperias, is alleged by Mr. Proctor to be more prominent than among other Americans, and oftener productive of bloodshed. The ladies often can neither write nor read; but Mrs. Graham and Captain Hall join in praising their natural talents, and the unstudied grace of their manners. Mr. Caldcleugh conceives the general deportment of those in the higher ranks to be almost unexceptionable.

The Catholic religion has hitherto reigned in Chili with the same supremacy as in the other states; but under the new system, the convents have been very sensibly thinned, no one being allowed to take the vows under the age of twenty-five; and many of the religious shows and processions have been suppressed; a change not altogether agreeable to the body of the people, whom it has deprived of one of their favourite amusements. The Roman Catholic religion continues the exclusive one, though numerous heretics are allowed to live in the country without molestation. The Protestants have even a consecrated burial-place, though not the public exercise of their worship.

Knowledge in Chili is beginning to disperse the general ignorance which prevailed. Mr. Caldcleugh is of opinion that, before the revolution, there was not a printing-press in the country. That since established at Santiago has been chiefly employed upon gazettes and political pamphlets. The government once proclaimed the freedom of the press; but as soon as an unfortunate writer, taking them at their word, began to criticise their measures, he was instantly seized and deported to the Isle of Juan Fernandez. The people, however, soon regained the freedom of the press, which they now enjoy in its full extent. The government do not seem to have shown the same zeal as elsewhere for the promotion of knowledge, though they have established Lancasterian schools in the principal towns; that of Santiago containing 400 boys. There is a library of several thousand volumes, formerly belonging to the Jesuits, containing some curious manuscripts respecting the Indians, but otherwise composed chiefly of scholastic divinity. The only fine art cultivated with any ardour by the Chilians is music, their application to which is truly indefatigable: the girls being set down to it almost from infancy, and having constant practice at their evening parties. The importation of piano-fortes is said to be truly immense. They do not play with consummate science, but with considerable feeling and taste.

The habitations of the lower ranks in Chili are of the most rude and primitive construction: the walls merely of stakes crossing each other, and fastened with thongs, or hemp twine; the roofs, which must resist the rain, composed of branches plastered with mud and covered with palm leaves. These, on both sides of the Cordillera, are called *ranchos*. The name of houses is assumed, where the walls are built of brick, which is easily formed in almost all the environs of Valparaiso, by merely digging out the clay, watering, treading, and then drying it in the sun. The walls are solid and thick; the apartments spacious, well furnished, and often richly gilded.

The negro population of Chili has never been numerous, and the slaves have always been employed for domestic purposes, and treated with much kindness, the laws of the country being very favourable to them. In 1811, a law was enacted, declaring free after that period all children of slaves born in Chili; and in 1825, the number of slaves was so far diminished, that it was thought expedient to abolish slavery altogether.

Sect. VII.—*Local Geography.*

Chili corresponds to the old Spanish captain generalship of the same name. In 1821, it was divided into eight provinces, which are subdivided into districts.

Provinces.	Chief Towns.	Population.
Santiago	Santiago	50,000
Aconcagua	San Felipe	5,000
Coquimbo	Coquimbo	10,000
Colchagua	Curico	2,000
Maule	Cauquenes	2,000
Concepcion	Concepcion	8,000
Valdivia	Valdivia	3,000
Chiloe	San Carlos	——

Santiago seems to derive its pre-eminence from its fertile and agreeable territory, particularly in the plain of Maypó, and that which surrounds the capital; from its mines of gold and silver, a more brilliant, though really not so valuable an object as the copper mines of Coquimbo; and from the residence of the government.

Santiago, the capital, is situated in a richly wooded plain, at an elevation of 2600 feet above the sea, which renders the climate agreeable and salubrious. Its aspect is irregular and picturesque. The dark tints of the fig and olive, with the lighter hues of the mimosa, mingled with steeples and houses, produce a novel and imposing effect. The houses having in general only one floor, and being surrounded by large gardens, the town appears completely overshadowed with foliage. Each house, in general, stands by itself, and, being strongly barricaded towards the street, forms a little fortress. They are one or two stories high, and built of adobes or unburnt brick. The streets, however, are regularly laid out, paved, and furnished with footpaths; the cathedral, several of the churches, and the director's palace, may be reckoned handsome, though they do not exhibit any thing very splendid in architecture. The Alameda, a mile in length, and planted with a double row of trees, is one of the finest promenades in South America. The river Maypoch runs through the city; but being, like most in this country, dry at one season and swoln to an overwhelming torrent at another, it has been necessary to erect not only a bridge, but a wall to confine the violence of the stream.

The vicinity of Santiago presents the most romantic and sublime prospects: on one side over an expanse of plain bounded by the distant ocean, on the other over successive mountain ranges crowned by the awful snowy pinnacles of the Andes. Near the city is a very picturesque waterfall (*fig.* 957.), called the Salto de Agua, or water-leap, which Mrs. Graham compares to Tivoli, though it wants the villa and temple to crown it.

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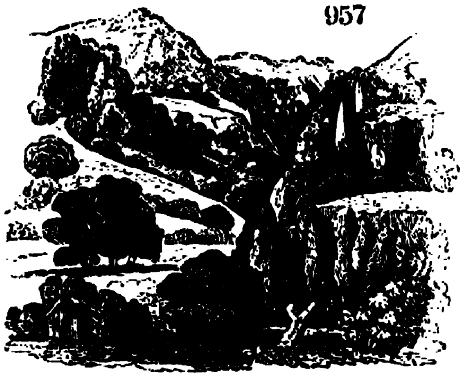

Salto de Agua.

Valparaiso (*fig.* 958.), the port of Santiago, and the main seat of Chilian commerce, is situated on a long narrow strip of land bordering a semicircular bay, over which impend on all sides steep cliffs nearly 2000 feet high, and sparingly covered with shrubs and stunted grass. One street, about three miles long, runs along the sea, and contains the houses of the most opulent citizens; it is prolonged by the Almendral, or Almond Grove, a sort of detached village, which forms the most agreeable residence. The lower ranks are huddled into the quebradas, or ravines, among the hills behind. None of the buildings are handsome; even the governor's house is scarcely tolerable; but the commercial progress of the town is marked by the many new and handsome warehouses erected. *Originally a mere village, it acquired some importance by becoming the channel for conducting the intercourse with Lima*, to which all the trade of Chili was then confined. All the commerce of the world being now thrown open to it, and numerous settlers attracted from Europe, it has acquired a population of 14,000 or 15,000, and assumed almost the appearance of an English town. During the summer, which lasts from November to March, the bay affords a safe and pleasant anchorage; but in winter, especially in June and July, precautions are required against the north wind, which blows often with peculiar violence.

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Valparaiso.

Quillota is a small but agreeable town, a little in the interior, in the province of Aconcagua, with 8000 inhabitants; and higher up are the towns of San Felipe and Santa Rosa, each having about 5000 inhabitants, and containing an industrious and thriving agricultural population.

Coquimbo is the most northern province of Chili; but, instead of assuming a gayer aspect as it approaches the brilliant regions of the tropic, it becomes more and more sterile. At the town of Coquimbo, or La Serena, even the brushwood which covered the hills round Valparaiso disappears, and its place is only supplied by the prickly pear bush, and a scanty sprinkling of wiry grass; while at Huasco, two degrees farther north, there is no longer a trace of vegetation. The greater part of the interior consists of a rock, composed entirely of pieces of broken shells, sometimes covered with a thin soil, but more commonly with a white powder like snow, which proves to be sulphate of soda. It is only on the banks of the streams, that the eye is gratified with verdure, cultivation, and pasturage. Its importance arises solely from its mines, which include both silver and gold; but the most productive and valuable, as already observed, are those of copper. The produce of the mines usually belongs to some capitalist at Santiago, who causes a vessel to call at Coquimbo for the copper, which is to be exchanged, perhaps, for a cargo brought to Valparaiso from Europe or India, and instructs his correspondent at Coquimbo to have a sufficient quantity in readiness. This employment gives some importance to the port of Coquimbo; though the inhabitants, unaccustomed to any varied traffic, retain much native simplicity, kindness, and hospitality. About fifty miles in the interior is Copiapo, in the heart of the mining district, of which it may be considered the capital. This place is subject to the dreadful calamity of being once in about every twenty-three years completely destroyed by earthquake. That of 1819 shook it entirely to pieces; the wrecks of its houses and churches lying scattered in every direction. The walls, though three or four feet thick, of large sun-dried bricks, seem to have toppled down, some inwards, some outwards, like so many castles of cards. The people had all crowded to the great church of La Merced, which they were judiciously advised to leave, and had scarcely quitted it when it fell to the ground, and would have buried the whole population had they remained. The Copiapians, in 1821, rebuilt their fallen city. Copiapo is bounded on the north by the desert of Atacama, which separates Chili from Peru, and is considered as belonging to the latter.

Concepcion, a more southern province of Chili, is the most highly endowed with all the real bounties of nature. Its situation, indeed, and the cold rains, render it unfit for tropical produce; but all the grain and fruits of the finest temperate climate are reared in such abundance as to make this the granary and garden of South America. Wheat of excellent quality is the staple, and the southern markets are chiefly supplied from Concepcion; to which may be added barley, maize, pulse, and all kind of vegetables. It yields also a sweet wine, the best in the New World, which Mr. Stevenson reckoned equal to Frontignac, and for which the demand at Lima is almost unlimited. The cattle farms are also numerous and valuable, yielding a large export of jerked beef. The town of Concepcion, with four conventual churches, a nunnery, a cathedral in progress, and many handsome houses inhabited by some of the old Spanish nobles, might almost have disputed with Santiago the rank of capital of Chili. The houses, like those of Santiago, were mostly of one story, built of mud or sun-dried brick, and forming regular streets at right angles to each other. The people were peculiarly kind and hospitable, and their gay and festive habits were accompanied with comparatively few irregularities. But it suffered with peculiar severity from the late contest; alternately occupied by the Spaniards and the patriots, it was rudely treated by both, but especially the former. General Sanchez directed to military objects all the timber destined for the new cathedral, and, on finally abandoning the city in 1819, set fire to a number of the principal houses. When Captain Hall visited it, in 1821, he found it almost desolate. Whole squares had been reduced to rubbish, and the streets were knee-deep in grass and weeds. Of the bishop's palace there remained only the sculptured gateway; many of the houses still standing were uninhabited; and, through the luxuriant vegetation of the climate, were enveloped in a thick mantle of shrubs, creepers, and wildflowers. The churches were all in a ruinous state; of the cathedral, the western aisle had fallen in, and the rest was rapidly crumbling into dust. Besides the usual conflict of Spanish parties, Concepcion was laid waste by the Araucanians, who, led by Benavides, a bold outlawed native of the province, carried on a war of perpetual inroad, similar to that which once raged on the Scottish and English borders, and which, though picturesque and eventful in narrative, was most calamitous to the parties concerned. After having in some measure recovered from these successive disasters, the town was entirely destroyed by an earthquake in 1835. Talcahuano, the port of Concepcion, is a small town of about 500 inhabitants, on a large bay, with a good and secure anchorage. Its defences have the reputation of being very strong; but during the late war they were neglected; wherefore, being of mud, and incapable of resisting the heavy rains of the country, they are nearly ruined.

Valdivia comprises a territory of about 130 by about 120 miles in extent, watered by three rivers, and containing several plains that are very productive in grain and cattle. There is scarcely any European culture; but the missionaries have, at different points, succeeded in forming the Indians into peaceable and tolerably industrious little communities. Valdivia was founded in 1553, destroyed by the Indians in 1603, and re-established in 1645. It was recruited to a limited degree by convicts sent from other parts of Peru and Chili, and employed in the public works. The town of Valdivia is situated about sixteen miles above its port, which is defended by strong batteries, and is the best and most capacious harbour of Chili; it will be of great value when the surrounding country becomes more populous and civilised. Osorno, built about forty miles distant, in the middle of the last century, is the most southern town in the New World. The capture of the port of Valdivia, in 1819, by Lord Cochrane, with 319 troops, opposed by 1600, was one of the boldest and most brilliant achievements in the American contest.

Arauco has been already mentioned as an extensive territory, which interposes itself between the Spanish districts of Concepcion and Valdivia. It extends north and south for about three degrees of latitude, reaching inland to the mountains. This region, celebrated in Spanish story and song, is described by Mr. Stevenson as really one of the finest in South America. The Araucanians, having adopted the rude agriculture of the Spaniards, raise Indian corn in abundance; they grow most admirable potatoes, which are, probably, indigenous; and have a good stock of horses and horned cattle. The whole country is divided into four districts, governed by hereditary rulers, called *toquis*, confederated together for their own benefit, and the injury of their neighbours. Particular districts are ruled by subordinate chiefs, also hereditary, called *ulmenes*. When war is declared, the toquis elect one of themselves, or even some other chief, who assumes the supreme command. They have appended the European musket to their own original arms of the bow, arrow, and club. When they set forth on an expedition, each individual merely carries a small bag of parched meal, trusting that ere long he will be comfortably quartered on the territory of his enemies. During the Spanish dominion, every new governor of Chili generally endeavoured to distinguish himself by the conquest of Arauco; and having assembled an army, he usually beat them in the field; but he soon found himself obliged, by a continued series of harassing warfare, to sue for peace from a proud race, whom nothing will ever induce to make the first advances. The Araucanians have a religious belief, but without temples, priests, and sacrifices. They have Pillian, the supreme toqui or ruler, with many subordinate deities or ulmenes, among whom the chief are Meuben, the good genius; Ulencuba, the evil genius; and Epunamum, the god of war. Omens and divinations are also objects of firm belief; and the warrior who would intrepidly face an armed battalion, will shake with terror at the flight of an owl. Witchcraft is in their eyes the most deadly sin, for which numerous unhappy victims are devoted to death. Marriage is always celebrated with a show of violence; for even after the consent is obtained, the bridegroom conceals himself on the road, seizes the bride, carries her to his house, where, perhaps, the parents are waiting to share the nuptial feast. Polygamy prevails among the chiefs, and all the hard work devolves upon the females, who plough, sow, and reap; and each wife must present her husband with a poncho or cloak, which is the chief manufacture of the country; some of these garments are very fine, selling at 150 dollars, though in general they can only be called a coarse rug. The towns of Arauco, Tubul, and Tucapel, are only villages, perched on the top of the most inaccessible rocks, and even these were built by the Spaniards. The abode of the principal cacique was a thatched house, with mud walls, sixty feet long, and twenty feet broad, which behind, throughout its whole length, contained a range of sleeping places resembling stalls; and in front a long narrow apartment, in which the family, forty in number, spent the day. Their chief amusements are out of doors; within, they are seen trotting through the room to sounds which resemble the filing of a saw, in uncouth movements imitating the dance. Though resisting all attempts at conquest, they have entered into a treaty with the republican government, and even agreed to a species of political union, though a long interval must elapse before this can be completely effected.

The large island of Chiloe, with others surrounding it which form a species of archipelago, have been formed into the most southerly province of the Chilian republic. They have a rude and rocky aspect, and are as yet thinly inhabited.

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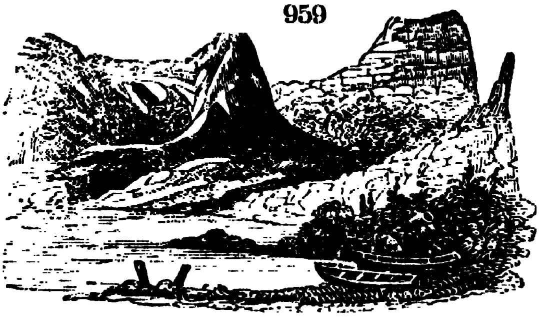

Juan Fernandez.

The Islands of Juan Fernandez may be considered as an appendage of Chili. They form a group of two small islands, called Mas-a-Tierra, and Mas-a-Fuero. The principal island, of which a view is here exhibited (*fig.* 959.) is so diversified by lofty hills, streams, and varied vegetation, that it has been described as one of the most enchanting spots on the globe. It was early noted as being the solitary residence of Alexander Selkirk, during several years; an event upon which Defoe founded his celebrated narrative of Robinson Crusoe. The island afterwards afforded to Anson the means of recruiting his shattered squadron, after the passage of Cape Horn. It has been used by the Chilians as a place for confining convicts, but was recently granted to a North American merchant, who proposes to make it a depôt for supplying trading and whaling vessels with provisions.

CHAPTER III.

PROVINCES OF LA PLATA, OR ARGENTINE REPUBLIC.

La Plata is the name given to an extensive region of South America, watered by the great river of that name, and which, under Spanish dominion, formed one of the principal viceroyalties. It had then annexed to it Upper Peru, including the mines of Potosi; but this country has, by recent events, been severed from it, and forms now an independent republic under the name of Bolivia. The remaining territory consists chiefly of detached cities, with surrounding cultivated tracts, which form, as it were, oases in a vast expanse of uninhabited plain. Buenos Ayres, the principal city, and commanding the navigation of the river, has endeavoured to form the whole into a republic, of which she herself shall be the capital, or at least the federal head; but there reigns through the different districts, a strong provincial spirit, which has hitherto rendered this union imperfect and precarious.

Sect. I.—*General Outline and Aspect.*

La Plata may in a very general view, be considered as occupying nearly the whole breadth of America, south from the tropic of Capricorn, leaving only the narrow strip of

Chili on the west, and on the east a section cut out of it by Brazil. On the north the Pilcomayo, while it runs from west to east, forms the natural boundary from Upper Peru; but after its great bend to the south, the line must be considered as continued eastward, cutting the Rio de La Plata, and onwards to the Paraná. On the east, the boundary of La Plata may be considered as fixed by the Paraná and the Uruguay, though the districts immediately west of these streams have not, since the revolution, been actually possessed by Buenos Ayres; and south of the Plata, the Atlantic is the clear boundary. On the south, the Rio Negro terminates the country actually occupied; but, on the principle so generally adopted by different European settlers, of extending their respective claims till they come into collision, we suspect that the Buenos Ayreans stretch their frontier to the Straits of Magellan, or even to Cape Horn. On the west, the uniform boundary is Chili, separated by the lofty summits of the Andes. The contents of this very extensive territory are calculated at about 1,000,000 square miles.

The surface of this territory consists of a plain the most extensive and uniform, perhaps, on the face of the earth, bounded only by the eastern slope of the Andes. The Pampas, west from Buenos Ayres, form an uninteresting level of more than 1000 miles across. This plain is divided into three successive portions: the first covered with thick clover and flowering thistles, that rise sometimes to the height of ten or eleven feet; then 450 miles of long grass, without a weed; lastly, a forest of low evergreen trees and shrubs, standing so wide, that a horse can gallop through them. At the end of this ocean plain, the Andes shoot up abruptly their wall of unbroken rock, covered with eternal snow, which to the traveller from the east appears to present an impenetrable barrier. The banks of the Plata consist also of immense plains, though not quite so level, nor covered with such varied vegetation.

Of the rivers, the chief is that from which the region derives its name and character, and which forms one of the grandest features on the globe, the Rio de la Plata. To Buenos Ayres, which it reaches after a course of nearly 3000 miles, it brings down a body of water thirty miles broad, resembling an arm of the sea; yet completely fresh. The largest vessels can ascend to the vicinity of that port and Monte Video, though the shore is obstructed by rocks and sand-banks. These increase as the stream ascends, and render it impossible for vessels of any magnitude to arrive at Asuncion. From the west the Plata receives the Pilcomayo, the frontier stream of Upper Peru, which passes through the richest mining districts, and the Rio Vermejo; both navigable. On the east it receives the half-Brazilian streams of the Paraná and the Uruguay. Large rivers, the Saladillo, and the Colorado or Desaguadero de Mendoza, run across the Pampas, and are supposed to reach the Atlantic. The latter rises in the Cordillera east of Coquimbo, and has a course of 1000 miles, during which it forms numerous lakes; but it has not yet attained any commercial importance; and another, the Rio Negro, forms the extreme southern boundary of settlement.

There are several lakes, as that of Hiera in the Entre Rios, fully 100 miles in length; some round Mendoza, formed by the streams descending from the Andes; and others farther in the interior; but none of these can be said to correspond in grandeur to the other features of this region.

Sect. II.—*Natural Geography.*

Subsect. 1.—*Geology.*

The whole extent of this province forms one continuous and unbroken plain of great fertility, and covered with perpetual vegetation. Rocks are rarely seen. Some gypsum occurs near to Buenos Ayres, and limestone is mentioned as occurring in different parts of the country. The stones used in paving the streets or in building are brought from the island of Martin Garcia, at the mouth of the Uruguay, or as ballast from Europe. Many of the lakes to the south of Buenos Ayres are strongly impregnated with salt. Salt occurs in the greatest abundance and purity at Las Lagunas de las Salinas, situated in lat. 37° S. in a south-west direction from the city, and not far distant from the mountains called La Sierra de la Ventana. At these lakes, when the evaporation has been considerable, salt is procured in great quantities; and to obtain supplies of this substance, considerable numbers of Indians and Creoles visit the place at particular periods; but owing to the distance, and expense of land-carriage, little of it reaches Buenos Ayres, as it can be obtained cheaper and of a superior quality from England.

Patagonia, Straits of Magellan, and Terra del Fuego. The expedition under Captain King, for the purpose of surveying the Straits of Magellan, left Monte Video on the 19th of November, 1826, and, after putting into Port St. Elena, about lat. 45° S., and remaining for a day or two in the vicinity of Cape Fairweather, continued for ninety days within the Strait; during which time its shores to the east of Cape Froward were surveyed under the superintendence of Captain King himself; while his consort, under Captain Stokes, examined the western entrance. The coast of Port St. Elena is described by Captain King as consisting of porphyritic claystone; of which the hills, from 300 to 400 feet high, are entirely composed. On the beach was a conglomerate, apparently of an alluvial character. Cape Fairweather is near the southern extremity of a range of coast, occupying between two and three degrees on the east of Patagonia, composed of horizontal strata of clay, in cliffs from 300 to 400 feet high, and entirely bare of vegetation. Some of the specimens from this quarter, Dr. Fitton, in his report, remarks, consist of a white marl, not unlike certain varieties of the lower chalk; and with these are portions of a greenish sand-rock, much resembling that of the upper green sand formation, and of a clay having many of the properties of fullers' earth. The pebbles on the shore consist of quartz, jasper, and flinty slate, but do not contain any mineral identical with chalk flint. Cape Virgins, at the north-eastern entrance of the Straits of Magellan, consists of clay cliffs, like those of Cape Fairweather; and between these two capes the coast is of the same character. What may be called the eastern branch of the Straits, from Cape Virgins to Cape Froward, though its general course is from N.E. to S.W., varies considerably in width and direction; but from thence to the western entrance the direction is nearly straight, from S.E. to N.W., and the width much more uniform; and one of the principal points determined by Captain King's survey is, that the fissure forming this portion of the strait is continued in the same direction for about 100 miles towards the S.E. from Cape Froward; through St. Gabriel's Channel, and a deep inlet, discovered by Captain King, and named "Admiralty Sound," which runs nearly fifty miles into the interior of Terra del Fuego. Dr. Fitton remarks that this separation of the land by a narrow rectilinear channel of such great length, appears to be analogous to the division of Scotland, by the chain of lakes on the line of the Caledonian Canal. In proceeding westward from the eastern entrance, the coast gradually changes its character; and primitive rocks appear about Cape Negro, near Elizabeth Island, where mountains of slate rise to the height of from 2000 to 3000 feet. Captain King remarks that the direction of all the ranges, commencing at Port Famine, about thirty miles from Cape Froward, is towards the S.E.; and that all the sounds and openings of the land in Terra del Fuego tend in the same direction: this being also the direction of the strata, which dip towards the south. This coincidence in the direction of the mountain ranges is expressed on Captain King's map: and he supposes that a similar structure holds good throughout the western branch of the Strait, from Cape Froward to the entrance on that side.

Specimens from Freshwater Bay, about 120 miles from Cape Virgins, on the Patagonian side of the strait, consist of highly crystallised greenstone, and hypersthene rock, resembling those of Scotland; and the pebbles and boulders on the shore are of granite, syenite, quartz, and flinty slate.

The vicinity of Mount Tarn and Eagle Bay, about midway between Port Famine and Cape Froward, affords various hornblende rocks; with greywacke, flinty slate, and gray splinty limestone. The slate of Mount Tarn contains traces of organic remains. Specimens from the south side of the eastern branch of the strait consist of micaceous gneiss, found at the entrance of St. Magdalen's Sound, and at Card Point on the south-west of St. Gabriel's Channel. The rocks at Cape Waterfall, near Card Point, are of clay slate; and the shores of Admiralty Sound afford granite, clinkstone, porphyry, and greenish compact felspar. Captain King also mentions his having observed here reddish quartz or sandstone, like that of the old red sandstone of Europe; and he remarks, that the soil over this rock is barren, while that above the slate produces luxuriant vegetation; beeches of great size growing there within a few feet of the water side. In general, the hills in this part of Terra del Fuego appear to be slate; they rise to the height of 3000 feet, and are covered with ice and snow. Mount Sarmiento, however, which is more than 5000 feet high, appears, from the shape of its summit, to be volcanic; and was called by the navigator, after whom it was named, "The *snowy volcano*."

Specimens from the western branch of the Straits of Magellan, collected by Captain Stokes, all consist of primitive rocks. Cape Notch, Cape Tamar, and the Scilly Islands, affording granite; Port Gallant, and Cape Victory, gneiss and mica slate; and Valentine's Bay, clay slate much resembling that of Port Famine. These places are all on the north side of the strait. On the southern side, in Terra del Fuego, Cape Upright affords granite and gneiss; and the latter rock is found also at Tuesday Harbour, and in the neighbourhood of Cape Pillar: the columnar mass, from which that remarkable point was named, is composed of mica slate.

Subsect. 2.—*Botany.*

In a former chapter, some account was given of the botany of the Terra del Fuego and the Straits of Magellan. The eastern coast of Patagonia, from the entrance of the Straits of Magellan to the river Plata, is comparatively low, and a great portion of it occupied by *pampas, extensive plains, covered with grass, but destitute of trees. This peculiarity of* country, indeed, exists upon the most extensive scale in the province of Buenos Ayres: a vast superficies, the whole of which is a plain (interrupted only here and there by a few hills, the highest scarcely 300 feet), extending from the Atlantic Ocean to the foot of the

Andes, a space of 720 leagues. Many of the rivers, from the extreme evenness of the surface, are (with the exception of five or six that are received into the Parana or Paraguay) arrested in the plain, without any decided course, and insensibly absorbed, like the rains which fall on the same ground.

"The level surface which so uniformly characterises the whole province of Büenos Ayres affords little scope for variety in its vegetable productions: still the aspect of the country is marked by many striking peculiarities. Different kinds of clover and other leguminous plants, intermixed with grasses, constituting the great mass of the vegetation, give to the country its verdant appearance, and form an inexhaustible source of nutriment, not only to the deer and other wild animals which are so abundant, but to the numerous herds of cattle and horses which may be seen grazing in all directions. The country is naturally destitute of wood, and, with the exception of an occasional natural copse of the Tala shrub, of very inconsiderable height, nothing resembling a tree is to be seen. The Ombu (*Phytolacca dioica*), however, sometimes makes its appearance, to diversify the scene, and relieve its monotony. Trees of this kind generally point out to the traveller the site of some habitation, near which they are usually planted; since, from the great rapidity of their growth, they soon become conspicuous at a distance, and afford a grateful shade to the inhabitants, during the hot season of the year. They are otherwise very useless, on account of the spongy nature of the trunk, which is so soft that it has sometimes been used as wadding for artillery, during the wars which prevailed in the country. In the more inhabited districts of the province, and especially in the neighbourhood of the city, numerous plantations are met with of peach trees, which are cultivated for firewood, and form a very profitable investment of land and capital, as they grow with great luxuriance, and may be cut down every four years; so that, by dividing a plantation equally, a fourth part may be felled yearly, which is sure to meet with a ready sale, being the principal fuel used in Buenos Ayres. The fruit, which is produced in great abundance in such plantations, is applied to no useful purpose, except the feeding of pigs and poultry."*

A very remarkable feature, occasioned by plants of exotic production, is given to the pampas of Buenos Ayres by two kinds of Thistle, well known in Europe; but principally of the Cardoon (*Cynara Cardunculus*, β. Hooker, in Botanical Magazine, t. 2862.). The native country of this plant is the south of Europe and north of Africa; but, the seeds having been conveyed to South America, it has escaped into the extensive plain that lies between Buenos Ayres and the Andes, and has given such an extraordinary feature to that country, as deserves to be recorded in a description of its vegetation. "The great plain or pampas of the Cordillera," says Captain Head, in his "Rough Notes, taken during some rapid Journeys across the Pampas, and among the Andes," "is about 900 miles broad; and the part which I have visited, though in the same latitude, is divided into regions of different climate and produce. On leaving Buenos Ayres, the first of these regions is covered for 180 miles with clover and thistles; the second, which extends for 430 miles, produces long grass; and the third region, which reaches the base of the Cordillera, is a grove of low trees and shrubs. The second and third of these regions have nearly the same appearance throughout the year; for the trees and shrubs are evergreens; and the immense plain of grass only changes its colour from green to brown; but the first region varies with the four seasons of the year, in a most extraordinary manner. In winter, the leaves of the thistles are large and luxuriant, and the whole surface of the country has the rough appearance of a turnip-field. The clover, at this season, is extremely rich and strong; and the sight of the wild cattle, grazing in full liberty in such pasture, is beautiful. In spring, the clover has vanished, the foliage of the thistle has extended across the ground, and the country still looks as if covered with a rough crop of turnips. In less than a month the change is most extraordinary; the whole region becomes a luxuriant wood of enormous thistles, which have suddenly shot up to a height of ten or eleven feet, and are all in full bloom. The road or path is hemmed in on both sides; the view is completely obstructed; not an animal is to be seen: and the stems of the thistles are so close to each other, and so strong, that, independent of the prickles with which they are armed, they form an impenetrable barrier. The sudden growth of these plants is quite astonishing; and though it would be an unusual incident in military history, yet it is really possible that an invading army, unacquainted with the country, might be imprisoned by these thistles, before it had time to escape from them. The summer is not over before the scene undergoes another change; the thistles suddenly lose their sap and verdure; their heads droop, the leaves shrink and fade; the stems become black and dead, and they remain rattling with the breeze one against another, until the violence of the pampero or hurricane levels them with the ground, where they rapidly decompose and disappear; the clover rushes up, and the scene is again verdant." If by any accident the dry stems of the thistles chance to catch fire, the conflagration spreads with such rapidity as to destroy much agricultural produce, and great numbers of cattle and other animals, which are unable to escape. In the neighbourhood of the city, they are cut down in large quantities, and sold for the purpose of heating ovens. The florets of this thistle are in common use in the country for the purpose of coagulating milk, which they effect in the same manner as rennet. A quantity of these florets is tied up in a rag and stirred about in warm milk for a few minutes. This thistle is also eaten as a vegetable; the tender footstalks of the leaves, and the young stems, when boiled and the outer skin removed, have the flavour of artichokes. When the plants of the pampas become too strong, it is customary to set fire to them, which gives a remarkable aspect to the country, as thus described by Azara:—"This operation, which is intended to make the plants send out new and tender shoots, must have the effect of diminishing the number of species; because the seeds are destroyed, and the fire inevitably exterminates some of the more delicate kinds. It is requisite to use precaution in setting the plants on fire, because there is nothing but water or roads that can limit its progress. I have travelled 200 successive leagues, in a southern direction from Buenos Ayres, continuing along the same plain, that had been all burned at one time, and where the grass was beginning to shoot again: and still I did not arrive at the termination. There was certainly no obstacle that could stop the flames. Woods arrest its ravages, because they are so thick and green, that they do not burn; but the edges of them become dry and scorched to such a degree, that the next conflagration finds them an easy prey. This custom destroys whole swarms of insects and reptiles, with immense numbers of the smaller quadrupeds, and even of horses, which have not so much courage as the oxen in forcing their way through the fire."

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* Dr. Gillies's account of Buenos Ayres, in Napier's edition of the Encyclopædia Britannica.

Of trees, Azara observes, that in this singular country, from the River Plata to the Straits of Magellan, there appear to be none, and shrubs even are exceedingly unfrequent. In some places near the frontier are viznagas, a large wild Carrot, and Thistles, which are collected for fuel; but as this is still scarce, the inhabitants burn the bones and fat of animals, and the dung of horses. At Buenos Ayres, and even at Monte Video, much of the latter substance is consumed, especially in the ovens; though the peach trees, that are cultivated for this sole object, aid in the supply. A little wood, too, is procured on the banks of streams near the north coast and in the islands of the Paraná and Uraguay. There, too, wood that is fit for making carts, houses, and boats of various sizes, may be obtained; but the major part of this comes from Paraguay and the missions. In the Chaco, there are plenty of trees, growing thick and tufted on the river banks, and more thinly in the open country; consisting of Cebile, Espinillo, Quebracho, Algaroba, and various species, which are quite unlike those that are known by the same name in Europe. The fruit of one of the Algarobas (a species of *Acacia*) is a large blackish pod, which, after having been peeled, would be as good as nut-galls for making ink, and perhaps for dyeing. The fruit of another resembles Haricot beans; it is much eaten by the poor, who peel and put it in water, where by fermentation it produces a liquor, called chica, of a pleasant taste and possessing inebriating qualities. From the river Plata to the missions, the trees are only seen by the sides of the rivers, and they diminish as the country becomes more peopled. In the Jesuit missions, and as you advance northward, there are extensive woods, not only near water, but wherever the soil is uneven. These are so thick and so full of Ferns, that walking is difficult; and yet the circumstance that seeds cannot vegetate in these situations, because they fall on a soil that is covered with leaves, and are neither affected by wind nor dust, nor capable of reaching the earth, renders it difficult to account for the multiplicity of the trees, whose only mode of increase is by suckers from the root; while the closeness of their stems would rather dispose them to push upwards, than to send out fresh shoots from below.

Azara gives an interesting account of many vegetables of Buenos Ayres, Paraguay, and Paraná; but, unfortunately, without mentioning their scientific names, so that we are too frequently at a loss to know what plant he means. Among them are the following:—"The Curiy, a kind of Pine (*Araucaria brasiliensis!*), grows in large forests not far from the rivers Paraná and Uraguay. It seems to excel the pine of the north, and is equally straight. It is said that it has but one very thick and straight root, and that its wood much resembles the fir; but the leaves are shorter, broader, and lanceolate at the point. The branches issue from the stem in regular and distant stages; they grow horizontally, and are rather slender. The fruit is a round cone, of the size of a child's head, with scales that are not so distinct as those of the common fir, but when ripe they expand and show the central nut, about as large as one's finger. The seeds are very long, and the thickness of the thumb at the largest end; when roasted, they have a flavour superior to chestnuts. The savage Indians are remarkably fond of them, and make flour and bread of them. The Jesuits have sowed some of these trees in the missions, where they have grown so large that it would be worth the while to cut one of them down, and, floating it to a desirable place, make a trial of it for a mast or rudder, for I am convinced that it would be applicable to this purpose, as well as for any kind of planks. The seeds of this tree should be tried in Europe, and with this view I brought away a dozen cones; but they, with my other seeds, as well as all my luggage, were taken from me by the Portuguese. I have seen a single individual in a garden at Buenos Ayres, where it grew very well. The Ybaro is another large wild tree. The Jesuits planted a long avenue of it, from their settlement called the Apostles, to the fountain, that the Indian women might, in passing, pull some of the fruit, and use them instead of soap for washing linen.

This tree (*Sapindus saponaria*) produces an immense number of round fruits, the kernels of which serve for playthings to the children, and of which they make large rosaries, because they are brown, bright, and glossy. Between these nuts and the outside skin there is a glutinous pulp that may be used for soap, by smearing it upon linen; but it is probable that the quality is not very excellent."

Though the family of the torch-thistles (*Cactus* Lin.) have their trunk, joints of the branches, and foliage in the flat form of a bat, and are of all trees or shrubs those whose general proportion and aspect are the least pleasing; "yet," says Azara, "I have seen two individuals which were the finest trees possible. The stem was 20 to 24 feet high, as round and as smooth as if it had been turned in a lathe. It was destitute of foliage, except at the top, where it was terminated by a sphere of branches or leaves of a flat shape. Both the fruit and foliage, though similar to other species of this family, were smaller. I found these two Cacti, in Paraguay, in two different woods of the settlement of Atirà, nearly a league distant from one another; and I was surprised to see them thus solitary among other trees without another of the same species. So that this kind of Cactus, reduced to two individuals, perhaps the last of the sort, will disappear at the death of those which I have just described."

Reeds, probably species of Bamboo, attain a great size, as thick as the thigh, and hollow; they are very strong, and are important in making scaffolding and other useful articles. The Jesuits employed these reeds, strengthened with bull-hides outside, to make the guns that they used in the war against the Spanish and Portuguese in 1752. These reeds grow on the banks of the streams, excelling all the trees in height; like others of the same tribe, they spring up in tufts, and it is said that seven years are requisite to bring them to the full size, after which they wither away, the root not sending up any suckers till after two years. There are at least seven kinds of reed in this country, some hollow and some solid, all of which might be advantageously introduced to Europe, where the least useful species (*Arundo Donax*), perhaps, is the only one known.

The famous Paraguay Tea must not be passed over unnoticed; and we must observe that the editor of Azara's Travels (M. Walckenaer), has fallen into a strange error in supposing the plant to be the same with the "Culen jaune" of Molina (the *Psoralea glandulosa* Linn.). It is a plant belonging to a widely different family, that of the Holly, and is the Ilex paraguensis (*fig.* 960.), which grows wild in all the woods, fringing the rivers and streams which fall into the Uruguay and the Paranà, as well as those whose waters swell the current of the Paraguay from the east, from lat. 24° 30′, northward. Some of these shrubs are as large as a good-sized orange tree; but in those spots where the leaves are regularly gathered, they never become more than bushes, because they are cleared out every two or three years, and the foliage requires that interval of time to arrive at perfection. The plant is evergreen, its stem is as thick as a man's thigh, with a smooth white bark, and boughs that point upwards, as those of the laurel, the whole plant presenting a thick and very branched appearance. The leaf is elliptical, rather broadest towards the end, four or five inches long, and about half as wide; it is thick, glossy, toothed all round, of a deeper green above than below, and the petiole is short and reddish. The flowers grow in bunches of thirty or forty; they have each four divisions and as many pistils placed in the intervals. The seed is very smooth, reddish-violet, and like peppercorns. To bring the Paraguay Tea into a state for use, the leaves are slightly scorched, by drawing the branch itself through fire. Then the leaves are roasted and broken down to a certain size, that they may be packed under strong pressure, the flavour of the recently prepared leaves not being considered agreeable. The use of this herb is general in Paraguay, and even in Chili, Peru, and Quito. The Spaniards have derived the custom from the Indians of Maracaya, and it is now so universally diffused, that the importation, which amounted but to 12,500 quintals in 1726, exceeded 50,000 in 1800. To drink this infusion, it is customary to put a pinch of the leaves into a cup or small calabash, called Maté (from which the name of the plant, Yerva Maté, is derived), full of very warm water, and to drink off the fluid immediately, by imbibing it through a little tube or sucker, pierced with small holes in the lower part, which only allow the passage of the water, and keep back the leaves that float on the surface. The same herb serves three times, by macerating it in fresh boiling water. Some drink it with sugar, or a few drops of lemon-juice, and it is taken at all hours of the day, the average daily consumption of each inhabitant being an ounce. If not drunk immediately, the infusion turns quite black. One man can easily collect and prepare at least a quintal in the day. The Jesuits planted a great many of these trees round their towns and missions, for the convenience of preparing and exporting the leaf; but their example has been but little followed, nor has the government adopted those provident measures which might ensure the preservation and propaga-

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Ilex Paraguensis.

tion of this valuable tree. At present, the groves of Paraguay Tea are situated in wild spots, often exposed to the invasion of the uncivilised tribes; these have sometimes murdered the labourers, who are exposed to many hardships and privations. By forming the plantations in inhabited districts, such difficulties would be avoided, the gathering would cost less, from women and children being employed, and the present destructive method of collecting the leaves might be in a measure obviated. The Jesuits were also more careful in the mode of preparing the leaves, from which they removed all the broken bits of wood and pounded them small, thus making three kinds from the same plant. There is, however, but little difference in the flavour, the principal requisite being that the foliage should be thoroughly scorched and roasted, and collected at a suitable time, as damp weather is very injurious to the quality. Thus, without regarding the intermixture of bits of wood, or the size of the leaves, the Paraguay Tea is divided into two classes, the Fuerte and the Electa. The latter, which is the best, is consumed in the provinces of La Plata to the amount of 1,250,000 lbs.; the other goes to Chili, Peru, and Quito. The South Americans ascribe numberless virtues to this plant, which is certainly aperient and diuretic, but perhaps possesses no other good qualities. Like opium, it produces some singular and contrary effects, giving sleep to the restless and spirit to the torpid. Those who have once contracted the habit of taking it, do not find it easy to leave it off, or even to use it in moderation, though, when taken to excess, it brings on similar disorders to those produced by the immoderate use of strong liquors.

Many resins and gums are produced in Paraguay. Among them is the well-known Gum Elastic, Caoutchouc or Indian Rubber, which distils from the *Hevea guianensis*. Though applied to so many purposes in this country, economical and medicinal, especially for overshoes and in rendering cloth water-proof, in its native country this gum is only used to make balls for children to play with, and to give light at night in the desert. For the latter, they make a round ball of the resin, and, throwing it into water, observe the part that floats upwards, in which they insert a burning match, which lasts a whole night, or till the ball is entirely consumed. When the trunk is pierced, a large quantity of resin soon flows out, which is received on a piece of leather stretched on the ground; it quickly condenses, and may be drawn out in long strips; or, by pressing it together, it forms a compact mass. Another tree, called Nandipa, affords a resin which, mixed with equal parts of Cane Brandy, forms a beautiful varnish. Turpentine and Gum Elemi are the produce of two other trees; and a strong milky glue exudes from a common tree called Curupicay. The Aquaraibay, of which the trunk is sometimes as thick as a man's body, furnishes a much esteemed article, called the Mission Balm. This is procured from its leaves, which are boiled in wine or water till it becomes a syrup, fifty arrobas of leaves producing one of balm. A tribute of 2 lbs. of this balm was paid by all the Indian nations where the tree grows, and transmitted to the king's apothecary at Madrid. In its native country, it is called Curalo Todo (or universal remedy), and considered equally efficacious whether administered internally or externally, in wounds, bruises, colics, catarrhs, diarrhœas, and stomach or head complaints.

Climbing plants, commonly called Ysipos, are very abundant in the woods: they climb and descend upon the largest trees, passing from one trunk to another, and sometimes entwining them so closely as to form apparently but one and the self-same body. There are also innumerable parasitic air-plants, which spring up and vegetate on the stem and branches of other trees: some are remarkable for the extraordinary form or beauty of their blossoms, and others recommend themselves by their surpassingly delicious odour. At a particular season, the large forest trees are adorned with the yellow orange flowers of some of these species; and it is customary to place them on all the balconies at Buenos Ayres. One kind, called Guenbé, springs up within the hollow trunks of decaying trees. Its stem, of which there are several on each plant, is as thick as one's arm, and from three to five feet long, the leaves two feet in length, and a foot wide, glossy and deeply cleft. This plant produces a spike like maize, with seeds of a pleasant flavour, and long straight roots, without any knots, that, after having twined several times round the trunk, strike into the earth. These roots are carefully peeled, and their bark, which is deep violet, fine and easily detached, serves to make cables and other cordage employed in navigating the Paraguay, without other preparation than that of drying it after it has been wetted. These ropes are cheap, they are not liable to decay in mud or water, and will stand a strong pull; still they are not so durable as hemp. Friction and bending are apt also to injure them. The English frigates used these ropes with advantage, during the latter years of the war.

The plants usually known in the country by the name of Pitas, Cardas, and Caraguatas (*Tillandsiæ* and *Bromeliæ?* perhaps *Agave*) grow in great abundance; some as parasites, and some on the ground. They all contain more or less water, which is perfectly clear and fresh, and often serves to quench the traveller's thirst. Two are more remarkable than the others: one of them grows in large quantities on the edges of woods and even in open spots, but does not extend to the river Plata. Its long and thick foliage, like that of the pineapple, yields a strong fibre, the inside leaves, which precede the developement of the fruit, being quite pearly; the small blossoms are followed by fruits, like dates, which, when ripe, are of a fine orange colour, and good to eat. The other is called Ybirá: its fruit resembles a pine-apple, but is quite worthless; but from the foliage is manufactured an excellent cordage, called Caraguata. This is used for various purposes, even in preference to hemp, because it neither stretches, nor decays in water. A rope, an inch thick, made of this substance, was compared with an hempen one of the same thickness, and it proved the strongest.

It is reasonable to suppose that on the western extremity of the great plain we have above alluded to, about Mendoza, the vegetation begins to alter, and to partake of that of the mountains, that city being situated at the eastern foot of that vast range. One of its most remarkable features, and that which would be least expected from its extra-tropical latitude, is the number of species of Cactus found in its vicinity. Schouw gives 26° S. lat. as the southern limit of the cactus region. Dr. Gillies, in a morning's ride from Mendoza, has been able to gather twenty-two distinct species of this curious genus, all of which he has introduced to the gardens of Great Britain, and all are growing in one establishment, the Glasgow Botanic Garden.

At Buenos Ayres, wheat yields 16 for 1, at Montevideo 12 for 1; but the grain is not much above half the size of that of Spain. From S. lat. 40° to the Straits of Magellan, Azara considers the soil to be too salt to yield wheat.

Vines were once more extensively cultivated than at present. In 1692, the city of Asuncion, the capital of Paraguay, supported in its neighbourhood 2,000,000 vine-stocks. Mendoza and San Juan, both situated near the eastern foot of the Cordillera, towards the close of the last century, yielded annually to Buenos Ayres and Monte Video, the former 3313 barrels, and the latter 7942 barrels of wine. Tobacco is largely grown, and 15,000 quintals per annum have been exported. Sugar, Mandiocca, Indian Corn, Batatas, and other vegetables requiring a warm climate, are, as may be expected, readily cultivated.

Subsect. 3.—*Zoology.*

On the Zoology of Paraguay, and of the provinces bordering on the great Rio de la Plata, the only authentic information is to be found in the memoirs of Azara, whose ample accounts of the native animals may be consulted with the greatest advantage. Unfortunately, however, this writer uses only provincial names; so that the scientific naturalist, unless he detects the animal from its description, is quite in the dark as to its generally received name. Most of the quadrupeds and birds are of species common also to southern Brazil. The Puma and Jaguar, among the ferocious animals, are elsewhere mentioned; while the vast inland plains, or pampas, are well known to swarm with wild Oxen and Horses, the descendants of those brought from Europe by the Spaniards. So little, however, do the inhabitants appear to turn the former animals to any other use than making candles of their fat, and traffic of their skins, that milk is a scarce article, Irish salted butter a luxury, and the making of cheese nearly unknown.

The Burrowing Owl, and the Cock-tail Waterchat, are two of the most singular birds of Paraguay. The first (*Strix cunicularia*) appears to live in the deserted holes made by a species of Marmot. The evidence of this is clearly presented by the ruinous condition of the burrows tenanted by these birds; while the neat and well-preserved mansions of the marmot show the active care of a skilful and industrious owner. (Bon. Am. Orn. i. 71.) These Owls hunt during the noon-day sun, and appear to live in the villages of the marmots, whose deserted habitations they occupy; for there is no evidence that the marmot and the owl habitually live in one burrow.

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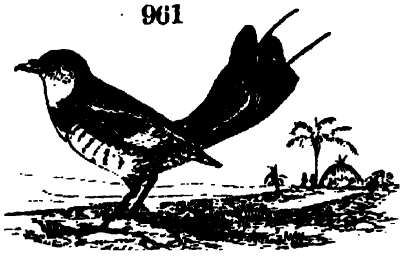

Cock-Tail Waterchat.

The Cock-tail Waterchat (*Alecturus alector*) (*fig.* 961.) is not much bigger than the Stonechat; the colours are plain, but the highly singular structure of the tail, shaped like that of a cock, renders it very remarkable. It lives on the ground, in open plains, near water; but flies with great celerity. The males frequently mount vertically in the air, flapping their wings, and moving their tail in an extraordinary way, and then darting down suddenly to the ground from a great height.

Sect. III.—*Historical Geography.*

La Plata had no claim to a place among civilised nations before the discovery of America. The Indians on the banks of the Paraguay, as on those of the other great rivers, were at that time in the lowest stage of savage life.

The Rio de la Plata was discovered by the Spaniards early in the sixteenth century. In 1534, Don Pedro de Mendoza founded the city of Buenos Ayres, and in two years established settlements as high as Asuncion. Thirst for gold was probably the motive for penetrating so quickly and so far into the interior; but no gold rewarded the search. The first importance of Buenos Ayres was derived from a few cattle having strayed into its immense plains, where they multiplied with astonishing rapidity amid the rich pastures, and in later times their hides became a great staple of commerce. Paraguay derived great benefit from the missionary establishments formed there by the Jesuits; where the rude Indians, on a greater scale than in any other part of America, were reclaimed from their savage life, and trained to regular, peaceable, and industrious occupations.

In 1778, Buenos Ayres, hitherto subordinate to Peru, was erected into a viceroyalty, including all the provinces east of the Andes, and thus comprehending Upper Peru, with the mines of Potosi; which rendered it, next to Mexico, the most important division of Spanish America.

The emancipation of Buenos Ayres was in some degree prepared by the British expeditions in 1806 and 1808, which formed one of the least creditable parts in the military history of the last war. But the grand impulse was given, here as elsewhere, by the compulsory abdication of Ferdinand. In May, 1810, Cisneros, the viceroy, after having taken violent measures to support the Spanish authority, was obliged to assemble a junta, and to allow an independent government to be formed, acting in the name of Ferdinand VII. After this the country was agitated by many disturbances and vicissitudes. Monte Video still resisted; and when reduced by General Artigas, it was occupied by that person as an independent chief: while the Portuguese, encouraged by this disunion, advanced and seized the town, together with the whole of the territory called the Banda Oriental. This step, however, was resisted by Buenos Ayres vigorously and successfully, and the government of Brazil was obliged to evacuate this territory, and allow it to be formed into an independent republic. Dr. Francia also contrived to occupy the upper province of Paraguay so firmly as to baffle all attempts to expel him. With these exceptions, and with that of Upper Peru, a general congress of all the provinces of the viceroyalty was held at Tucuman in March, 1816, and adjourned the following year to Buenos Ayres; and a republic was constituted, under the title of "the United Provinces of the Rio de la Plata." In 1826, it assumed the title of the Argentine Republic. This union, however, has not been permanent. Each province at present has an administration of its own, though repeated attempts have been made to establish an united government.

SECT. IV.—*Political Geography.*

The constitution of Buenos Ayres is that of a representative republic. The legislative power is exercised by two chambers, the representatives and the senators; the former consisting of forty-one deputies elected by the direct suffrages of the provinces, and renewed by half their number every two years; the senate is formed by two deputies for each province, making thirty in all, who are renewed by one-third at a time: they are elected by eleven members of each province. The executive power is exercised by a citizen holding the title of president, elected in the same manner as the senators, and holding his office for five years. He is re-eligible, and his powers are very extensive. He appoints to all offices civil, military, and ecclesiastical, except to archbishoprics and bishoprics, which are nominated in ternaries by the senate. The despatch of business is intrusted to five ministers, responsible for every unconstitutional measure, the president also being liable to impeachment before the senate and house of representatives. The judicial power is exercised as in other South American states; but it is to be observed, that the ministers of the supreme court of justice, as well as the lowest judges, are all nominated by the president. The military forces are estimated by a late traveller at 2500 or 3000. During the war with Brazil, about 10,000 troops were collected, with a numerous militia. The revenue, during a continued war, and disorganised internal government, necessarily fell into an embarrassed state. It is remarkable, that the old government, notwithstanding the oppressive alcavala, and its fifth on the product of the mines of Potosi, never drew from this viceroyalty more than 700,000 dollars. The revenue of the republic, consisting of customs, excise, and direct tax, is estimated at about 3,000,000 dollars a year; and there is a debt of 4,500,000 dollars. The provinces, since the breaking up of the congress in 1819, have remained in a state of separation; though they have assisted Buenos Ayres in her war with Brazil. In Paraguay, Dr. Francia continues to exercise a most absolute and tyrannical sway over the ignorant natives, for the reports of his death seem to be premature. The Banda Oriental has formed a separate republic.

SECT. V.—*Productive Industry.*

The agricultural produce consists almost entirely in the vast herds of horses and horned cattle which cover those boundless plains, clothed with rich herbage, which constitute the Pampas. The gaucho, or farmer, has no care in rearing or feeding; he has only to throw over them the lasso, or long leathern noose, to kill or drive them into Buenos Ayres, and in the case of horses, to break them, and put a mark on them by which they may be known. Beef can scarcely be said to bear any price, since a cow may be had for twenty shillings, and the hide is worth more than half that sum. Wheat and barley, for which the soil is perfectly adapted, are cultivated in a slovenly way immediately round Buenos Ayres, the grain being threshed by making cattle gallop over it. Notwithstanding the encouragement given to agriculture by the government, there was still a necessity, in 1823, to import 70,000 barrels of American flour. The milk is not made into cheese or butter; and garden vegetables are no object of culture, the gaucho considering them as food fit only for beasts. In this naked and exposed country there is a great want of timber for fuel; the peach tree has been found to grow, and answer the purpose of fuel better than any other. Paraguay produces its herb, or *maté*, of which the infusion, like that of tea, is prized over all the most southern countries of America. Quantities of this commodity have been sent down the river to the value of 1,000,000 dollars in the year; but Dr. Francia, of Paraguay, prohibited its exportation.

The mines of Potosi, the richest in South America, may now be considered as again attached to Peru. There are, however, scattered along the eastern border of the Cordillera, a number of mines of gold, silver, and copper, from which high expectations were once formed in this country; and it was supposed, that, by the application of British skill, industry, and capital, they might be rendered far more productive than they had ever been. The observations of Captain Head and Mr. Miers have dispelled these hopes. It appears that mining, before the revolution, had been pursued to excess; adventurers being urged at once by the immense profits which had, in a few instances, attended it, and by the cheap rate at which the compulsory labour of the Indians could be obtained. Under this impulse, mines had been worked, which in Cornwall would not be thought worth working. All these poor mines are now deserted, being unable to pay the high rate demanded by free labourers for such severe work, when they are surrounded by the richest unoccupied land, and masters of as many cattle as they can catch. Machinery, supposing it were worth employing, is of very difficult application, from the want of water and timber, and from the vast extent of land-carriage by which iron must be conveyed. The English association, therefore, formed for working the mines of the Rio de la Plata, after investing a large capital, have judged it wiser to submit to the entire loss than to proceed. This branch of industry will never, perhaps, regain its former height; and the prosperity of the state must rest upon other and more solid foundations.

There is scarcely any manufacture, except that of ponchos, or riding cloaks, which are universally worn, and from habit are made better than those hitherto supplied by the Manchester manufacturers, who are exerting themselves, however, to improve the fabric of this article. The indolence, which the South Americans inherit from the Spaniards, will, probably, long prevent them from becoming a manufacturing people.

The commerce of Buenos Ayres is large, compared with the population and general wealth of the state. The country is dependent on foreign supplies for almost every article, both of manufactured goods and colonial produce, and even for a little grain; in return for which it gives the refuse of its cattle, hides, horns, hair, and tallow. The value of the commercial transactions of the United States with the Argentine Republic is about 2,500,000 dollars. The trade with Great Britain, has increased considerably. It is difficult, however, to form any precise estimate of its amount, as the exports to Monte Video as well as Buenos Ayres are confounded, in the Custom-house accounts, under the general name of the states of the Rio de la Plata. In 1831, the value of the various articles of British produce and manufacture exported to them was 339,870*l.*, little more than the half of the exports to Chili. Hides are the great article of export. In 1832 there were, dry hides, 877,132; salted, 48,378; horse hides, 4076; nutria skins, 1456 dozen; horns, 2,049,017, &c. A very considerable inland trade is also carried on by enormous wagons, which are driven very rapidly across the Pampas to Mendoza, and other towns at the foot of the Cordillera, and, having often to be dragged over bog, quagmire, and torrents, arrive commonly in a very shattered state. They carry some manufactures and colonial goods, and bring back wine, brandy, and mineral produce. The intercourse with the countries up the river is, at present, obstructed by political causes.

Roads, canals, and bridges, have no existence in the territory of La Plata. It is supposed to be enough, in this immense flat surface, that successive travellers beat down the grass, shrubs, and thistles, for those who are to succeed them. But though the ground be even, great obstacles are opposed by swamps, torrents with steep banks, and sometimes broad rivers, which can only be crossed by fording, though the water should reach breast-high. A still greater danger arises from holes made by animals called *biscachos*, which burrow in the ground like rabbits. Into these the horse and his rider are ever and anon precipitated, with the danger of breaking a limb, at the distance of 500 miles from medical aid. Spirited half-wild horses are, indeed to be had in abundance, but as

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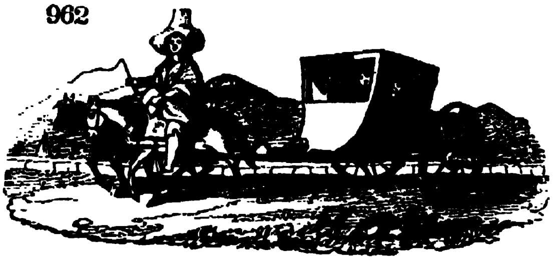

The Pampas.

they know no pace between a walk and a gallop, it is only by the extreme skill of the drivers that the light wagons (*fig.* 962.), employed for the conveyance of travellers, pursue the journey without being dashed to pieces.

SECT. VI.—*Civil and Social State.*

The population of the territory of La Plata bears, undoubtedly, a very small proportion to its vast extent. It is by no means well ascertained, but is generally supposed not to exceed 700,000; exclusive of the territory governed by Francia, and the Banda Oriental, of which Monte Video is the capital. These may raise the whole to somewhat above 1,000,000.

Society, over all Spanish America, wears a very uniform aspect. The creoles, now everywhere the ruling class, are acute, polite, courteous, indolent, unenterprising, passionately fond of diversion, especially in the forms of dancing and gaming. Every lady holds her tertulia, or evening party, to which even the passing stranger will sometimes be invited. They are less charged with intrigue, however, than in some other great cities of South America; the conduct of the young ladies is very strictly watched, and they are married at thirteen or fourteen. The lower ranks pass through the streets in a very orderly manner; but they are too much addicted to frequenting pulperias, or drinking-houses, where gaming sometimes gives rise to deadly quarrels. Horses being easily procured at Buenos Ayres, it is an object of pride to keep a number of fine quality, on the equipment of which the inhabitants often bestow more care than on the due clothing of their own persons. Every one has a horse; even the beggar begs on horseback.

The Gauchos, who inhabit the wide surface of the Pampas, and appropriate the numberless herds that roam over them, are a very singular race. Some travellers hold them as downright savages; but Captain Head assures us, that they are often of good birth, and very estimable persons. The gaucho is at once the most active and the most indolent of mortals. He will scour the country whole days at full gallop, breaking wild horses, or chasing the jaguar or the ostrich; but once alighted and seated on the skeleton of a horse's head, nothing can induce him to move. He considers it a degradation to set his foot to the ground; so that, notwithstanding a general vigour almost preternatural, the lower limbs are weak and bent, and he is incapable of walking to any distance. His dwelling is a mud cottage, with one apartment, and so swarming with insects, that in summer, the whole family, wrapped in skins, sleep in the open air. All round is a desert, with the exception of the *corral* or circular spot, enclosed by stakes, into which the cattle are driven. Neither grain nor vegetables are cultivated, nor is the cow made to yield milk. Beef is the only food; and it is roasted, or rather twisted, on large spits stuck in the floor, in a slanting direction, so as to overhang the fire, a twist being from time to time given, to expose all sides of the meat in succession, and slices are cut out by the surrounding family: the juices, of course, fall into the fire, and are lost. A certain proportion become robbers, for which vocation these desolate plains afford scope; and Captain Head does not consider it safe to meet a party without a display of three pistols ready cocked.

The Indians of the Pampas, a savage and terrible race, driven before the Gauchos, have in no degree coalesced with them, but continue in a state of deadly and raging hostility. Whoever encounters them in these wilds must expect death in its most terrible forms for his immediate lot; and the travellers, meeting each other, ask with trembling voice, if any Indians have been seen on the route. They appear of the genuine Arauco breed; are nobly mounted, having each two or three horses, so that, when one is exhausted, the rider leaps on another. They delight in midnight expedition and surprise. On reaching the hut of an unfortunate Gaucho, these marauders set fire to the roof, when the family, who, at the same time, hear the wild cry which announces their doom, must rush to the door, and are instantly killed, without any distinction, except of the young girls, who are placed on horseback, and carried off to serve as wives, in which capacity they are well treated. A large body were lately in a state of regular war with the colonists, but they have been defeated, and driven beyond the Colorado.

The Catholic religion prevails exclusively in these states, as over all South America; but the splendour of the churches, and the endowments of the clergy, appear to be greater here, compared at least with the means of supporting them, than in any other province. There prevails, also, a particular laxity in the conduct of the clergy. A late traveller, one Sunday evening, in passing the arena for cock-fighting, saw a number of clergymen, each with a fighting-cock under his arm. The government at Buenos Ayres has shown a considerable activity in reforming the abuses of the church, having suppressed a number of convents, and at one time prohibited any accession to the number of monks and nuns; but the influence of these communities is still very strong in the interior provinces, to which this conduct of Buenos Ayres has rather served as a ground of disunion.

Knowledge, as in the other new states, is encouraged by the government, without having yet made any very deep impression on the body of the people. Several large schools have been established on the plan of mutual instruction, and an university has even been founded, without permission from the pope; but it is little more than a classical school. A history of the country, by Don Gregorio Funes, enjoys reputation.

Sect. VII.—*Local Geography.*

The city of Buenos Ayres (*fig.* 963.) is situated on the southern bank of the Rio de la Plata, about 200 miles above its mouth; and, being raised about twenty feet above the river, and presenting the spires of numerous churches and convents, it makes rather a fine appearance. The houses are new, built of brick, whitewashed, and with flat roofs, over which may be taken a pleasant and even extensive walk. The windows are protected by iron bars, causing each mansion to resemble a lock-up house, and to form, indeed, a complete fortification; which enabled the town to make a formidable and effectual resistance to the British army, absurdly marched into it by General Whitelock. Along the beach there is a street which resembles Wapping, being crowded with grog-shops. The cathedral, though built of brick, is a very handsome structure, as are several of the other churches and monasteries. The fortress in which the viceroy formerly resided is situated near the river. The town, on the whole, is rather handsome, especially the houses surrounding the great square. The environs on the land side have a very monotonous aspect, being animated neither by varied vegetation, nor by the chirping of birds. The population is estimated at 70,000. Large vessels cannot approach nearer than two or three leagues.

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Buenos Ayres.

The province of Entre Rios, which is situated higher up, between the Uruguay and the Plata, derives from these two rivers some of the most extensive and rich alluvial plains on the surface of the globe. Even the swampy and inundated tracts might easily be converted into the most luxuriant meadows. The herb of Paraguay is found there, and it is supposed might be produced of equally good quality as in the upper quarter, where only it has been hitherto reared in perfection. Mr. Rodney calculated the population of this province and of the Banda Oriental to be only 50,000. Corrientes, at the junction of the Plata and the Paraná, must, from this happy situation, rise in time much above its present moderate importance. Lower down, on the opposite side of the river, is Santa Fé, distant eighty leagues from Buenos Ayres, which has risen to considerable importance by becoming a depôt for the goods on the river. This city, with its district, has formed itself at present into an independent state, strongly repelling all union with Buenos Ayres. The Santa-Ferino was represented to Mr. Caldcleugh as more wild, and cruel, and regardless of the laws, than any of the other provincials. The population of the town is not supposed to exceed 4000; and of its district, 30,000.

Paraguay, still farther up, between the Plata and the Paraná, forms a very fine district, which has fallen under the absolute dominion of a person of the name of Francia. Having taken a degree at the university of Cordova, he applied his knowledge in astronomy and physics, and the instruments connected with those sciences, to impress this simple race with a belief in his supernatural powers. By these and other arts, he rules them with absolute sway, under the title of dictator of Paraguay; and his first maxim is to allow no person or thing to come into or go out of Paraguay. Of things, the most valuable is the herb of Paraguay, which the neighbouring countries, were they permitted, would take off to the value of 1,000,000*l.* sterling; and of persons, Bonpland, the illustrious botanist and companion of Humboldt, was long detained in prison, though recently liberated. The violent steps, however, by which this person is now supporting his sway, seem to indicate that it has gone beyond what the temper of the nation will bear, and therefore is not likely to be permanent. Asuncion, the metropolis of the Upper La Plata, is a considerable place, with about 7000 inhabitants, but with little regularity and beauty. It is built on a bank above the river, which is daily washing away part of the ground beneath it. This place, with the smaller ones of Coruguaty and Villa Rica, were the staples for the herb of Paraguay. Two other villages, Santa Lucia and Little Santa Fé, sent down to Buenos Ayres and Monte Video lime and gypsum, for the purpose of whitewashing the walls of those cities.

Cordova, Tucuman, and Salta form together an extensive region, which has been often comprehended under the general appellation of Tucuman. They fill the interval between the Rio de la Plata and the Andes, which does not consist of dead level plains, like those in the south, but is crossed by branches of the Andes, and even by parallel chains, of which the most considerable is that called the Sierra de Cordova. Between these mountains are found valleys and extended plains of great fertility, on which every species of tropical produce is raised; but the prevailing stock consists in cattle, sheep, and, above all, mules, which, being indispensable for conveyance across the Andes, are reared with great care, and exported in great numbers to Peru. There are also many species of valuable wood; honey and wax are produced of excellent quality; and wool, both of the sheep and vicuna, is manufactured into cloth. This district eminently distinguished itself in the war of independence, contending in favour of that cause at once against the governors of Buenos Ayres, Chili, and Peru; and the first congress of the La Plata provinces was held at Tucuman. They at present hold aloof, being unwilling to acknowledge the superiority claimed by the distant capital of Buenos Ayres. The people, according to Mr. Caldcleugh, bear the reputation of being more industrious, religious, and orderly, than those of the other provinces.

Of the capitals of these provinces, Cordova is a neat small town, well paved, with a handsome cathedral and market-place. It possesses the only university in the interior provinces, which has recently produced some men of considerable eminence. It carries on a manufacture of cloths, and a trade in mules. Salta is a considerable place of 400 houses, situated in the beautiful valley of Lerma, on the high road from Buenos Ayres to Potosi. It is the capital of a bishopric. About 60,000 mules are reared in the neighbourhood. An annual fair is held in February and March for mules and horses. The people, and those of other towns in the district, have a hard struggle to maintain with the tribes of unsubdued Indians, who hem them in on all sides. Tucuman and St. Jago del Estero are also old towns, situated in fertile plains, and deriving some importance from their position on the main route from Buenos Ayres to Peru. Near Tucuman are some silver mines, not yet worked.

Mendoza, a province separated from that of Cordova, consists of some beautiful, fine, and well-watered valleys, overshadowed by the amazing rocky and snowy steeps of the Andes. Its staples are the same as at Cordova, mules, wool, cloth. A considerable number of mines of gold, silver, and copper occur both here and farther north; but, as already observed, they are not likely to answer the sanguine hopes once cherished by British capitalists. The importance of Mendoza rests on its fertile soil, and on its being the sole route of communication between Buenos Ayres and Chili; which, though rugged, leading over the loftiest steeps of the Andes (*fig.* 964.), is a continual thoroughfare. A product, almost unique in America, is that of wines and brandies, which are very tolerable, and are sent to the neighbouring provinces. Mendoza is a neat town, well built of brick, the streets refreshed by streams from the river, and the interior of the houses well fitted up. The population is generally reckoned from 8000 to 10,000; though Mr. Caldcleugh makes it 20,000. They are described as a quiet, respectable, well-disposed people, though they give themselves up without reserve to the indolence generated by the climate, enjoying an unbroken siesta, or sleep, from twelve to five in the afternoon, when they rise to walk on the alameda, which commands a noble view of the plain and the Andes: but this is the usual train of life in these interior cities. San Luis, to the east of Mendoza, on a frequented though circuitous route from Buenos Ayres, is a much smaller place, consisting of a number of mud huts, scattered over a large space of ground, but in a situation highly picturesque, being enclosed by a lofty branch of the chain of Cordova. San Juan de la Frontera, to the north of Mendoza, has another but much less frequented route through the Andes. The town is said to contain 10,000 or 12,000 inhabitants.

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Route over the Andes.

Patagonia, which, since the settlement formed on the Rio Negro, the Buenos Ayreans number as one of their provinces, is in full possession of an Indian race, all mounted on horseback, and in habits and aspect closely resembling those who desolate the Pampas. They have drawn the attention of navigators by their size, and have been actually reported as a nation of giants. Although this be exaggerated, yet they really seem tall above the ordinary standard. They are described to be excellent horsemen. The eastern coast of this country is bordered by a prolongation of the Andes; but these mountains, after passing Chili, display no longer that stupendous elevation which has marked so great a portion of their range. Their general height from thence to the Straits of Magellan is not supposed, by Captain King, to exceed 3000 feet, though some peaks rise to 5000 or 6000, when they wear a most dreary aspect, being covered with perpetual ice and snow. This part of the chain has no valley interposed between it and the ocean, whose stormy waves beat direct against its cliffs, and have furrowed the land into almost numberless islands, separated from the continent and each other by long and narrow channels. One continental peninsula alone, that of Tres Montes, is said to be directly exposed to the waves of the Pacific. Of these isles, the largest and most northerly, called Wellington, is separated from the continent by the channel of Mesier, 160 miles long, whose shores are bordered by low hills, covered with thick woods. To the southward is the archipelago of Madre de Dios, which is little known; but the channel of Concepcion, which divides it from the continent, is broad and safe, and the opposite coast deeply indented with bays, the principal of which, called St. Andrew, is terminated by abrupt mountains, covered by enormous glaciers. Next follows Hanover Island, of considerable extent, and to the south of it a numerous group, called the Archipelago of Queen Adelaide, which borders on the Straits of Magellan. In the interior from the coast are two large saline lakes, one fifty and the other thirty-four miles long, called Otway and Skyring.

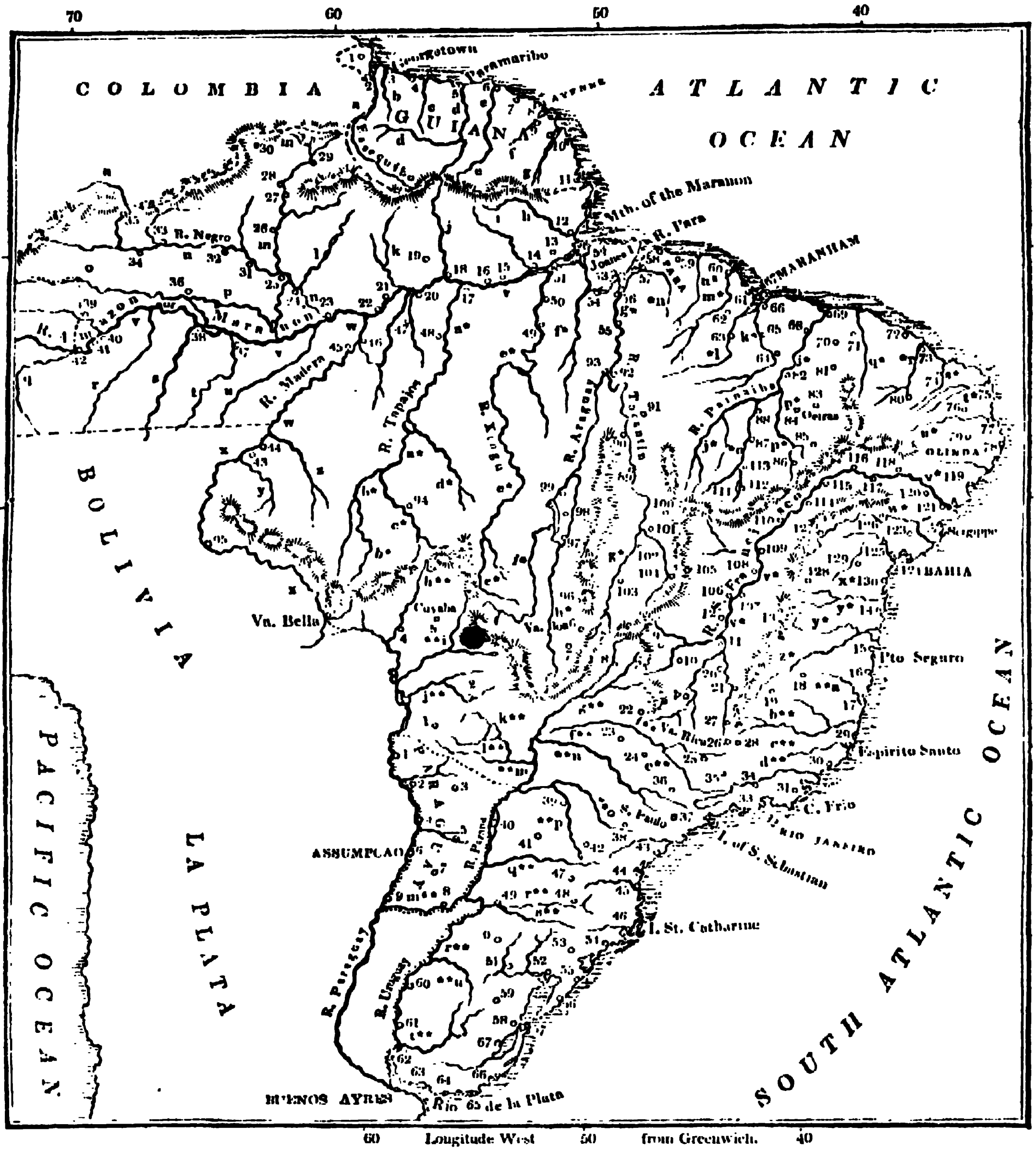
Opposite to the southern boundary of the American coast extends the dreary region of Terra dėl Fuego. Narrow straits, crowded with islets, divide it into three parts, of which the most eastern, and much the largest, is called King Charles's Land, the middle and smallest, Clarence Island, the most westerly, Desolation Land. Between Terra del Fuego and the continent extends the long narrow winding strait, celebrated under the name of Magellan, who by it first penetrated into the Pacific Ocean. This channel presents three entirely distinct portions. The most western, composed of granite and other primitive rocks, exhibits mountains irregularly heaped together, a coast deeply indented by bays, forming bold promontories, while the passages are filled with innumerable islets and dangerous rocks. In the central part the mountains, composed of slate clay, are bold, elevated, and in some parts covered with perpetual snow; but no rocks or islands occur to obstruct the navigation. In the eastern quarter, the coast again assumes a granite character, and is also diversified by islands, though not so numerous as in the western channel. The southern coast of Terra del Fuego is also broken into numerous islands. Two of them, Hoste and Navarin, are separated from the main land by a long narrow channel, stretching almost in a direct line, and named, from Captain King's ship, the Beagle. Staaten Land, another large island, lies off the eastern coast, from which it is separated by the Straits of Le Maire. One of the islands belonging to the group, called L'Hermite, is remarkable as containing Cape Horn, the most southerly point of America, and facing directly the wastes of the ocean which surround the Antarctic pole. It was once deemed "infamous for tempests;" but it is now found that in a proper season Cape Horn may be passed with little danger, and it is commonly preferred to the winding and difficult channel of Magellan. The Petcherais, who inhabit Terra del Fuego, are a handful of miserable savages, in the lowest state of wretchedness, and subsisting solely by the shell-fish which they pick up on the shore. The Spaniards made an early attempt to form a settlement at Port Famine, in the middle of the strait, but could not maintain it.

The eastern coast of Patagonia is comparatively low. That immediately north of the straits is covered in a great measure with extensive plains, or pampas; but from Port St. Julian, in about 49° S. lat., to 44°, it is broken by considerable eminences. Ports Desire, St. Julian, and Santa Cruz afford tolerable anchorage, often resorted to by vessels destined for the southern fishery. The natives are seldom seen on this coast, which they are said to frequent only for the purpose of interring their dead.

Sect. VIII.—*Oriental Republic of the Uruguay.*

The tract of country which lies on the north of the Rio de la Plata and on the east of the Uruguay, formerly made a part of the Spanish viceroyalty of Buenos Ayres, under the name of the Banda Orientale. After having been nine years in the hands of the ferocious Artigas, it was incorporated with Brazil under the title of Provincia Cisplatina. The contending claims of the two powers led to a war, which was finally terminated by the establishment of an independent republic, which has an area of about 90,000 square miles, and a population of 75,000. Its official title is Oriental Republic of the Uruguay.

Monte Video, capital of the republic, stands on the northern bank of the Plata, and has the best harbour upon that river, which, however, is exposed to the violence of the pamperos or south-west winds. It has suffered severely in passing through the hands of Artigas, and subsequently by the war between Buenos Ayres and Brazil; its population is reduced to about 15,000. It is well built, with wide and regular streets, and the country around is agreeably diversified with hills and valleys; the gardens abound with the finest fruits and flowers, but there is otherwise little cultivation; though extensive cattle farms are found in the interior. It exports large quantities of hides. Below Monte Video is the small port of Maldonado, and above, the still smaller one of Colonia del Sacramento, with a good harbour.



References to the Map of Brazil, Paraguay, Uruguay, and Guiana.

NORTH PART.
1. New Middleburgh
2. Essequibo
3. Georgetown
4. New Amsterdam
5. Paramaribo
6. Dutch Fort
7. Iacuba
8. Cayenne
9. Roura
10. St. Louis, or Oyapock
11. Macary
12. Villa Nova de Madre do Dios
13. Fragoso
14. Desterro
15. Outuro
16. Montalegro
17. Santarem
18. Obidos, or Paxos
19. Faro
20. Villa Nova de Rainha
21. Syles, or Yves
22. Serpa
23. Rio Negro, or Fontaleza de Barra
24. Aran
25. Mour
26. Carmo
27. S. Maria
28. S. Felipe
29. S. Joaquim
30. S. Rosa
31. Barcelos
32. Thomar
33. Caldas
34. S. Antonio de Castanheiro
35. S. Jose de Marabytauna
36. S. Antonio do Marapi
37. Avellos, or Coary
38. Tere, or Villa de Ega
39. Assumpsion
40. Matura
41. Olivenza, or S. Paulo do Omaguas
42. Taleatinga
43. Balsamao
44. S. Antonio
45. Missao
46. Borba
47. Ilhambaranas
48. Aldea do Munducus
49. Taruana
50. Veiros
51. Gurussa
52. Chaves
53. Tenorio
54. Oeiras
55. Alcobaza
56. Villa Vicoza
57. Para
58. Cintra
59. Braganza
60. Arcos
61. Alcantara
62. Vianna
63. S. Bento
64. Caxias
65. Lagos
66. Itapicuru
67. Maranham
68. S. Eugenio
69. Parnaiba, or S. Luiz
70. Piracrura
71. Vicoza
72. Seara, or Villa del Forto
73. Aracati
74. Villanova, or Princeza
75. Natal
76. Campinha
77. Paraiba
78. Olinda } Pernambuco
Recife }
79. Limoaro
80. Crato
81. Marvad
82. S. Francisco
83. Valencia
84. Oeiras
85. Gamelleira
86. Picada
87. Matto Grosso
88. Jerumenha
89. Assumpcao
90. S. Lorenzo
91. Mirador
92. S. Joao das duas Barras
93. Fort de S. Joao das duas Barras
94. Povoacao
95. Fort do Principe de Beira
96. Borinos
97. Angeja
98. Ponte de Lima
99. Lamacal
100. Natividade
101. Conceicao
102. S. Feliz
103. Agonquente
104. Flores
105. S. Maria
106. Carynhanda
107. Malhada
108. S. Rosa
109. Bomjardim
110. Arcado
111. Taboquinha
112. Perangoa
113. Almesego
114. Centoce
115. Joazeuo
116. S. Maria
117. Pambo
118. Moxoto
119. Alagoas
120. Itabanga
121. Villanova
122. Sergippe
123. Nhambupa
124. Bahia, or S Salvador
125. Tacoipo
126. Pombal
127. Jacobina
128. Rio de Contas
129. Maracas
130. Boyessa.

SOUTH PART.
1. S. Barbara
2. Porto do Camapuao
3. Villa Bella
4. Villa Maria
5. Cuyaba
6. Villa Boa
7. Claro
8. S. Cruz
9. Paracatu.

CHAPTER IV.

EMPIRE OF BRAZIL.

Brazil is a very extensive region, which occupies nearly the whole of the eastern tracts of South America, and, after being long held as a Portuguese colony, has of late, by peculiar circumstances, been formed into a separate empire. It extends over more than half the continent of South America.

Sect. I.—*General Outline and Aspect.*

Brazil is bounded on the east by the Atlantic, whose shores describe round it an irregular arch, broken by very few bays or inlets of any consequence. In the interior, this empire borders on every side upon the former provinces of Spain; but the two nations, in the course of 300 years, could not determine on the boundary lines to be drawn through the interior of these vast deserts. The discussion was rendered still more intricate by attempts to refer the question to the authority of the Pope, who allowed to the Portuguese 100 leagues west from the islands of the Azores and Cape Verd, without indicating which island or what league was to be used; and by successive congresses of pilots and cosmographers, who had only imperfect and often ideal maps by which to guide themselves. The line seems to begin on the south with the great estuary of the Rio Grande do Sul, whence it passes to the Paraná, and thence by the Paraguay and the Guapure to the junction of the latter with the Madera. An imaginary line, drawn from the confluence of the Guapure and the Mamore to the Javary, then separates Brazil from Peru; the last-named river and the Amazon thence form the boundary to the mouth of the Caqueta, whence, after following up the course of that river for some distance, the line strikes north to the Parima Mountains, and continues along the mountain ridge, and the channel of the Oyapoc, to the ocean. The Brazilian government, taking advantage of the dissensions which reigned in the new state of Buenos Ayres, occupied with its troops the whole territory as far as the Plata, which it insisted made the most natural and compact of all boundaries; but the Buenos Ayreans, unable to discern the beauties of this arrangement, took arms in order to oppose it; and the contest has issued in the disputed territory being formed into a separate republic.

The dimensions of this immense range of territory may be taken from about 4° N. to 32° S. lat.; and from about 35° to 73° W. long. This will give about 2500 miles of extreme length, and about the same in extreme breadth. The area of the whole has been estimated at upwards of 3,000,000 square miles. It is thus twenty-five times the extent of the British Islands, nearly twice that of Mexico, and greater by a fourth than the entire domain of the United States from the Atlantic to the Pacific. It is rather more than half of all South America. Of this immense space, indeed, not above a fourth can be considered as at present in an effective and productive state; and that part is scarcely cultivated and peopled up to a fourth of its actual capacity. But nearly the whole, from soil, climate, and communications, is capable of being brought, at some future and distant period, into full improvement.

The Brazilian ranges of mountains are of great extent, but reach, by no means, to that stupendous height which distinguishes the Andes of Colombia and Peru. The principal mass of these mountains lies N.W. of Rio de Janeiro, towards the sources of the rivers San Francisco, Paraná, and Tocantines. From that point extends a parallel chain towards the north coast, under the names Cerro das Esmeraldas, Cerro do Frio, and others; another

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References to the Map of Brazil, Paraguay, Uruguay, and Guiana—Continued.

10. Comiten
11. Lagos
12. Olhos
13. Joazeiro
14. Ilheos
15. Porto Seguro
16. Alcobazo
17. S. Jose do Porto Alegre
18. Bom Successo, or Fanado
19. Arachahy
20. Cabral
21. Duas Barras do Curvello
22. Desemboque
23. S. Carlos de Jacuhy
24. Conceicao
25. S. Joao del Rey
26. Villa Rica
27. Sabara
28. Mariana
29. Espiritu Santo
30. Itapemirim
31. Ubatuba
32. Rio Janeiro
33. Guaratiba
34. Guarda
35. Jurueca
36. Jaguari
37. S. Paulo
38. Villa Nov
39. S. Xavier
40. Guaira
41. S. Thome
42. Pintagui
43. Cananea
44. Paranagua
45. Villa do S. Francisco
46. Villa da La- ...
47. Papugayos
48. S. Joao
49. Salto Ano
50. S. Miguel
51. Yacuy
52. Portalegre
53. Registo
54. Conventos
55. Quintao
56. Comorida
57. Rio Grande
58. Gonzalo

URUGUAY.

59. S. Rosa
60. S. Jose
61. Almagro
62. Soriano
63. Colonia
64. Monte Video
65. Maldondado
66. Castaneio
67. Mangrullo.

PARAGUAY.

1. Toldano
2. Itapecaguaco
3. Voquila
4. Benado de Capitata
5. Villa do Curuguaty
6. Assumpcao
7. Villa Rica
8. Ytapua
9. Neembucu.

Rivers.

a Essequibo
b Demerara
c Courentine
d Surinam
e Marony
f Guayca
g Oyapock
h Anamirapucu
i Vaccarapy
j Oriximina, or Trombetos
k Guntumas, or Vatuma
l Juaguapna
m Branco
n Negro
o Copuota, or Yapura
p Coduya
q Javary
r Jutay, or Hyutahy
s Tefe, or Teffo
t Coary
u Puru, or Purus
v Amazon, or Maranon
w Madera
x Benez, or Guapore
y Jasey, or Yassy
z Machado, or Giparanna
a* Tapajos, or Topayos
Juruenua
Arinos
R. de tres Barras
Xingu
f Annapu
g Tocantin
h Araguay
i Mortes
j Parnaiba
k Itapicuru
l Meary
* Turiassu
Guama
Gorguea
Fidalgo
Camozin
Jaguarde
Conchas
R. Grande
Paraiba
S. Francisco
Itapicuru
Peruaguacu
y* Contas
z* Rio Grande do Belmonte
a** Mucuri
b** Doc
c** Espiritu Santo
d** Paraiba
e** Rio Verde
f** Rio Grande
g** Paranahyba
h** Paraguay
i** S. Lorenzo
j** Tacoary
k** Vermelha
l** Anhanduhy Guaru
m** Parana
n** Tiete
o** Parana Panema
p** Pirapo
q** Grande da Curitiba, or Iauacu
r** Uruguay
s** Que
t** Negro
u** Ybigui Guazu.

chain extends south in a direction equally parallel; and a third, that of Matto Grosso, reaches towards the N.W. as far as the plains of Pareses, the central savannah of South America. This last chain pours its waters on one side into the rivers Tocantines and Xingu, and on the other into the Paraguay and the Paraná. Some mountain chains, but little known, cross near the Tocantines. Towards the banks of the San Francisco is another great plain, called Campos Geràes. On the north coast, between Maranham and Olinda, occurs the Sierra de Itiapoba, one of the most considerable in Brazil. These mountains are not generally higher than from 2000 to 3000 feet; only a few detached peaks rising to about 6000. Geographers have filled the interior with lofty chains, which have remained as fixtures in modern maps; but it seems now ascertained that these vast regions are in general very level; and that even the separation of the waters of the Amazons, the La Plata, and the Madera, is made by plains, the highest ridges of which are only apparent by that separation. The banks of the Lower Amazons present plains almost boundless.

Rivers, the greatest in America and in the world, flow around the borders or through the territories of Brazil. Its northern part is watered by the course of the Amazons, its western by the Madera and the La Plata. Within its territory flow, tributary to the Amazons, the Topayos, the Xingu, and the Negro, which, though here secondary, may rival the greatest waters of the other continents. But these rivers, flowing through regions which will one day be the finest in the world, when they will bring down an endless succession of valuable products, roll at present through savage deserts, and impenetrable forests, which have never felt either the axe or the plough. The Tocantines and the Parnaiba flow into the sea on the northern coast. But at present the most useful rivers are those between the coast chain and the sea, none of which can attain any long course. Much the greatest is the Rio Francisco, which, flowing northward along the back of these mountains to their termination, there finds its way to the Atlantic. There are two Rios Grandes, one falling into the sea north of Porto Seguro, the other (Rio Grande do Sul) in the extreme south, watering the province that bears its name. Yet so little is Brazil at present dependent on internal navigation, that none of its great ports are situated upon these rivers, but merely upon small interior bays. The great river known under the names of the Marañon, Orellana, and Amazons, requires here a more particular notice. In the present state of our knowledge, we must consider the Apurimac, which rises on the high regions of Bolivia, to be its principal source; flowing north through Peru into Equator under the name of Ucayali, it is there joined by the other principal constituent, the Tunguragua, which issues from the lake of Lauricocha. Now bearing the name of Amazons, the united waters flow eastward across the continent to the ocean, which receives the accumulated tribute of 200 streams, under the equator, by a mouth 175 miles in width. The tide is perceptible about 600 miles up the Amazon, which is navigable for large vessels to the junction of the Tunguragua and the Ucayali, beyond which there is sufficient depth of water in several of the branches for vessels drawing six or seven feet. The shoals are numerous, the navigable channels in many places narrow, winding, and subject to continual changes; and below the Madera the navigation is much obstructed by floating trees. The banks are low, and in certain seasons flooded to the distance of many miles. The principal tributaries from the north are the Napo, the Putumayo or Iça, and the Negro; from the south the Javary, Jutai, Jurua, Madera, Tapayos, and Xingu, many of them large rivers. The Madera, which has a course of 2500 miles, and the Negro, which is about 2000 miles in length, are the principal. The Cassiquiare, a branch of the latter, is also an arm of the Orinoco, and presents the singular spectacle of one great river sending off a part of its waters into the basin of another. The Amazons drains an area of upwards of two million square miles, and its extreme length, following the windings of its channel, cannot be less than 4500 miles.

Lakes are not leading features in Brazil: but in the southern province of Rio Grande, there are the Patos and the Mirim, extensive and shallow, communicating with the sea, yet chiefly fresh, and forming the receptacle of all the streams which come down from the interior. Farther inland, the Paraguay, by its superfluous waters, forms the Lakes Xarez, and Ibera, which spread in the rainy season over a prodigious extent of ground.

SECT. II.—*Natural Geography.*

SUBSECT. 1.—*Geology.*

Granite, occasionally associated with syenite, appears to abound in Brazil, forming the basis of the low country, and also the central, and often the higher parts of the mountain ranges. Resting upon it, there occur gneiss, mica slate richly impregnated with iron ore, chlorite slate, talc slate, quartz rock, limestone, hornblende rock, and greenstone. Upon these old rocks repose sandstone, with slate clay, and upon these various alluvial formations. True volcanic rocks have not hitherto been met with. Eschwege has published a section of the country extending from Rio Janeiro to Villa Rica, which exhibits all the different rock formations just enumerated.

The minerals distributed among these formations occur in cavities, veins, beds, or disseminated; and of these the gems and ores are the most important. The most precious and beautiful of the gems, the diamond, is one of the characteristic minerals of Brazil. Hitherto it has been found chiefly in alluvial sands and conglomerate (*cascalho.*) Eschwege mentions having seen it embedded in brown iron ore. The district of Serra do Frio is that in which it occurs most abundantly; and it is said also to be a native production of the territory of Matto Grosso. According to Eschwege, the supply of diamonds during the eighty-four years from 1730 to 1814 was at the rate of 36,000 carats per annum; but the return from the registers of the administration of the diamond mines from 1800 to 1806 was only 19,000 carats.

Large diamonds do not abound in Brazil, but some of considerable size are occasionally met with. Topazes of great beauty and of considerable size are met with in the diamond district, the chrysoberyl and the green tourmaline or Brazilian emerald in the Serra dos Esmeraldas, and splendid rock crystals and beautiful amethysts are of frequent occurrence.

Iron, in the form of magnetic iron ore, specular iron ore, and brown iron ore, is found in vast quantities. Gold in grains is found in the sands of most of the principal rivers and their chief branches; or it occurs in the consolidated sand and gravel named *cascalho.* Gold also occurs disseminated in different primitive rocks, but there are not mines for the gold they contain; all the gold exported from Brazil being obtained by washing the sands of rivers. Native copper and also ores of copper are met with, but hitherto they have not been turned to any use. Common salt occurs in some clays and marls, and nitrate of potash or saltpetre is produced in abundance in the extensive limestone beds of Monte Rodrigo, between the Rio dos Velhos and the Paraná.

Subsect. 2.—*Botany.*

Brazilian botany is almost too extensive for us to touch upon; yet with the powerful aids of St. Hilaire, Martius, and others, it would be unpardonable not to attempt giving some idea, however imperfect, of it. Dr. Abel, in his Voyage to China in the Alceste, has conveyed, in few words, a striking picture of that portion of the country which is most frequented, and must, consequently, have been visited by thousands of Europeans; and he shows how great is the advantage possessed by a traveller acquainted with natural history over the common observer, both with respect to pleasurable expectation, and the chances of its fulfilment. The objects of his studies are infinitely numerous, and each in its simple relations is so completely a centre of observation, that he must always be repaid for the labour of research. "On first entering the harbour of Rio Janeiro, he feels unutterable delight. No apprehension of disappointment darkens his prospect. The certainty of meeting Nature in her gayest and most exalted colours, in all her varied and attractive forms, gives him unmixed enjoyment. The brilliant tints of the mountain foliage feed his botanical imagination; whilst the dazzling insects which flutter about the ship tell to him the stores of animated nature. As a geologist, he may almost remain on the deck of the vessel and prosecute his researches; immense ridges of primitive mountains, traversed by deep ravines, and rising in succession to the very boundary of his vision, afford him an ample subject of interesting investigation. When once the naturalist has landed, he quickly bends his way to the rocky woods that cover these hills, and finds himself encompassed by all the beauties of Flora. Thus I was entirely overwhelmed for some minutes by my sensations, on first beholding the glorious productions of a tropical climate in their native soil. Plants that are reared in England at great expense, and attain, under the best management, but a puny and uncharacteristic form, flourished around me in all the vigour and luxuriance of their perfect being. A thick coppice was formed by numerous species of Cassia, Cæsalpinia, and Bauhinia, whose gay colours and elegant forms were curiously contrasted with the grotesque characters of the Aloe and Cactus. The trunks of the forest trees were covered with beautiful Creepers, and parasitic Ferns occupied their branches. Emerging from the wood, I entered groves of Orange trees, bearing fruit and flowers in the greatest profusion. I approached them in wonder, and scarcely dared to taste their abundant produce, when I was astonished by receiving permission to gather them in any quantity. Having laden myself with plants, I returned along the rocky beach to my boat; walking, at every step, over land crabs and the larvæ of insects, whose numbers gave an appearance of animation to the soil. Standing on the beach, with my back to the sea, I had immediately before me the dark face of the Sugar-Loaf Mountain, rising from a wood of flowering trees. To the right hand, the same wood climbed the precipitous ground, intersected by paths leading to a rugged rock. Here, groves of orange trees afforded a retreat from the blaze of the unclouded sun; while the cool sea breezes heightened the effect of the scene, and, blowing over fields of bloom, came charged with delicious fragrance."

Martius most fully corroborates all that Dr. Abel has stated. "Scarcely," says he, "were we beyond the streets and noise of Rio Janeiro, when we stopped, as if enchanted, in the midst of a strange and luxuriant vegetation. Our eyes were attracted sometimes by gaily coloured birds, or splendid butterflies; sometimes by the singular forms of the insects, and the nests of wasps and termites, hanging from the trees; sometimes by the beautiful plants scattered in the narrow valley, and on the gently sloping hills. Surrounded by lofty, airy Cassias, broad-leaved, thick-stemmed Cecropias, thick-crowned Myrtles, large-blossomed Bignonias, climbing tufts of the honey-bearing Paullinias, far-spreading tendrils of the Passion-flower, and of the richly-flowering Coronilla, above which rise the waving summits of Macaubu Palms, we fancied ourselves transported into the gardens of the Hesperides. Passing over several streams which were turned to good account, and hills covered with young coppice wood, we reached the eminence along which the spring-water for the city is conducted. Between the woody hills, there are diversified romantic prospects into the valleys below. Sometimes you traverse open spots, where a stronger light is reflected from the flowery ground, or from the shining leaves of the neighbouring high trees; sometimes you enter a cool shady bower. Here a thick wreath of Paulliniæ, Securidacæ, Mikanias, Passion-flowers adorned with an incredible number of blossoms, climb through the crowns of the Celtis, the flowering Rhexias and Melastomas, Bauhinias, delicate Mimosas, and glossy Myrtles; there, bushy Nightshades, Sebestanas, Eupatoria, Crotons, Ægiphilas, and innumerable other plants, form an impervious thicket, amidst which grow immense stems of the Silk Cotton Tree (*Bombax*), of silver-leaved Cecropias, thorny Brazil-wood tree, of the Lecythis, with its singular fruit resembling a pitcher, slender stems of the Cabbage Palm, and many other sovereigns of the wood. The majestic sight, the repose and silence of these woods, interrupted only by the buzz of the gay Humming-Birds fluttering from flower to flower, and by the singular notes of unknown birds and insects, peculiarly affect the mind of the man of sensibility, who feels himself, as it were, regenerated in the prospect of the glorious country. The stream, which the aqueduct conveys to the city, falls in one place in beautiful cascades over the granite rocks. Oblique-leaved Begonias, slender Costus and Heliconias, the red flower-stems of which shine with peculiar splendour, contrasted with the gloom of the forest, arborescent Ferns and Grasses, hanging bushes of Vernonias, Myrtles, and Melastomas, bending under a load of blossoms, adorn the cool spots that surround them. Large and small-winged butterflies sport above the rippling water; and birds of the gayest plumage contend, as it were, morning and evening, to overcome the noise of the brook by their various notes. The higher one ascends, the more rare do the large trees become, and the Bamboos and Ferns more numerous, among which is a beautiful arborescent Fern, fifteen feet high. Coffee trees are planted on the sides of the hills, the top of which is crowned by the Brazilian Pine (*Araucaria imbricata*), with its dark grotesque branches, extended like candelabra. In the surrounding forest grows a kind of Bark, which has been exported under the name of Quina do Rio (*Coutarea speciosa?*), the efficacy of which, in intermittent fevers, has been proved by experiments made in Portugal. Though not possessing all the anti-febrile qualities of the Peruvian bark, it is preferable to many other sorts which come to Spain from Peru, mixed with the better kind; and, were the pieces of wood carefully selected, it might afford a very powerful medicine. Another Brazilian plant, containing a great quantity of bitter, is the Carqueja (*Baccharis genistelloides*), which is much used against intermitting fevers."

It is remarkable that upon all the shores of the New and Old World between the tropics, Rhizophora Mangle, the Mangrove Tree (*fig.* 966.), Bruguera, Conocarpus and Avicennia, with seeds, shooting, while attached to the parent plant and branches striking into the earth, seem by their roots above and below, at once to convey the image of that rich and generous vegetation which we admire in these latitudes. As these plants belong in an especial manner to the sea-coast, so every large river has a flora of its own along its whole course, which forms one of the most important features in the physiognomy of the country through which it flows. Thus, on the shores of those immense rivers, the Rio de San Francisco, the Tocantin, the Parnaiba, and the Amazons, there are certain species which mark the peculiar character of their vegetable productions, and are extremely interesting to the botanical geographer, as indicating, to a certain degree, the basis of the forms of each individual flora. Those shrubs and trees which emit roots from their branches require to come into contact with the sea, in order to attain their perfect growth; and, with their wide-spreading and very superficial roots, they appear especially to affect the swampy soil of its shores. Though their wood be solid and not unfrequently thick, they grow with extraordinary rapidity. The Mangrove (*Rhizophora Mangle, Mangue vermelho*) is distinguished by forming a very thick bark in a proportionably short period. In those places where the scarcity of timber does not make it necessary entirely to cut down the Mangle Trees, as, for instance, in Maranhao, it is usual, particularly at the commencement of the rainy season, when the sap begins to flow between the wood and bark, to tear off the latter and use it for tanning. On the summits of these forests growing on the shore, are seen, in sailing along, the most beautiful white herons sitting, gay-coloured halcyons watching for fish, and within the thicket various waterfowl, running about or swimming Wherever

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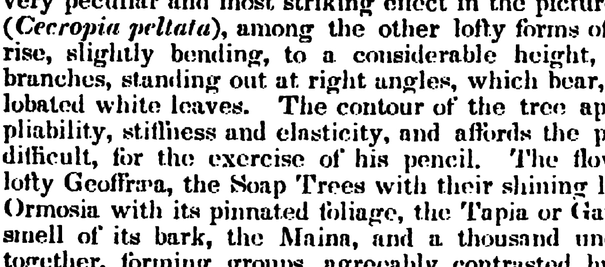
Mangrove Tree.

these trees grow, the whole neighbourhood is converted into marshes and swamps, and serves only for an abode for a peculiar species of crab.

The celebrated Russian voyager and traveller, Baron von Langsdorff, has a beautiful country residence in Brazil, at the foot of the Organ Mountains, called Mandiocca, on account of the excellence of the Mandiocca roots (*Jatropha Manihot*) which are cultivated there. This estate is bounded on the northward by a chain of mountains, traversed by several narrow dells, and covered with wood. In the midst of these great forests are the tracts (*rossados*) which, after burning the felled trees, are planted by the land-owners with Mandiocca, Maize, Beans, Coffee, &c. These plantations (*rossas*) are generally abandoned after a few harvests, and in a few years are covered again with a thick brushwood (*capoeir*) which is particularly distinguished by the absence of large kinds of trees, of a slower growth. The primeval forests, which stand, as testimonies of the creative energy of the New Continent, in all their original wildness, and still unprofaned by human hands, are called, in Brazil, Mato Virgem, Virgin Forests. In them, European coolness refreshes the wanderer, and, at the same time, presents the image of the most luxuriant profusion; the never-ceasing power of vegetation makes the trees shoot up to a majestic height; and, not contented with these gigantic primeval monuments, Nature calls forth, upon every stem, a new creation of numerous verdant flowering parasite plants. Instead of the uniform poverty of species in the forests of Europe, there is an endless diversity in the forms of stem, leaves, and blossoms. Almost every one of these sovereigns of the forest, which here stand near to each other, is distinguished, in the total effect of the picture, from its neighbour. While the Silk Cotton Tree, partly armed with strong thorns, begins at a considerable height from the ground to spread out its thick arms, and its fingered leaves are grouped in light and airy masses, the luxuriant Lecythis and the Brazilian Anda shoot out, at a less height, many branches profusely covered with foliage, which unite to form a verdant arcade. The Jacaranda attracts the eye by the lightness of its doubly-feathered leaves; the large gold-coloured flowers of this tree and the Ipé dazzle by their splendour, contrasted with the dark green of the foliage. The Spondias arches its pinnated leaves into light oblong forms. A very peculiar and most striking effect in the picture is that produced by the Trumpet Tree (*Cecropia peltata*), among the other lofty forms of the forest. Its smooth, ash-gray stems rise, slightly bending, to a considerable height, and spread at the top into verticillate branches, standing out at right angles, which bear, at the extremities, large tufts of deeply lobated white leaves. The contour of the tree appears to indicate, at once, hardness and pliability, stiffness and elasticity, and affords the painter a subject, equally interesting and difficult, for the exercise of his pencil. The flowering Cæsalpinia, the airy Laurel, the lofty Geoffræa, the Soap Trees with their shining leaves, the slender Barbadoes Cedar, the Ormosia with its pinnated foliage, the Tapia or Garlic Pear-tree, so called from the strong smell of its bark, the Maina, and a thousand undescribed trees, are mingled confusedly together, forming groups, agreeably contrasted by the diversity of their forms and tints. Here and there, the dark crown of a Brazilian Pine (*Araucaria imbricata*) among the lighter green, appears as a stranger among the natives of the tropics, while the towering stems of the palms, with their waving crowns, are an incomparable ornament to the forests, the beauty and majesty of which no language can describe. If the eye turns from the proud forms of those ancient denizens of the forest, to the more humble and lower, which clothe the ground with rich verdure, it is delighted with the splendour and gay variety of the flowers. The purple blossoms of the Rhexia; profuse clusters of Melastoma, Myrtle, and Eugenia; the tender foliage of many Rubiaceæ and Ardisiæ, with their delicate flowers blended with the singularly formed leaves of the Theophrasta; the Conchocarpus; the reed-like Dwarf Palms; the brilliant spadix of the Costus; the ragged hedges of Maranta; magnificent Stifflias; thorny Solana; large-flowering Gardenias and Centarea, entwined with garlands of Mikania and Bignonia; the far-spreading shoots of the mellifluous Paullinias; of the burning Dalechampias and the Bauhinia, with its strangely lobed leaves; strings of the leafless milky Bindweed, which descend from the highest summits of the trees, or closely twine round the strongest trunks, and gradually kill them; lastly, those parasitical plants by which old trees are invested with the garb of youth; the grotesque species of Pothos and Arum; the superb flowers of the Orchideæ, the Bromelias, which catch the rain water; the Tillandsia (*fig.* 967.), hanging down like Lichen pulmonarius, and a multiplicity of curiously formed Ferns; all these admirable productions of so young a soil combine to form a scene which alternately fills the European naturalist with delight and astonishment.

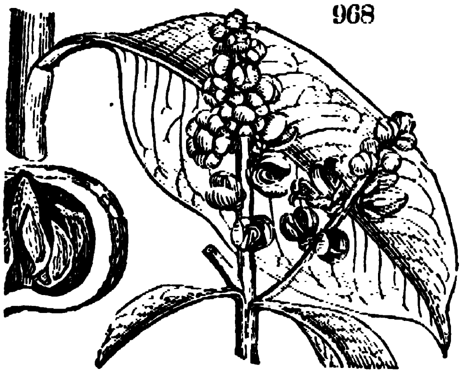

967

Bromelia. Tillandsia.

When here attempting to sketch the interior of a tropical forest, it is requisite to point the attention of the reader to the relative situation of each individual plant, with regard to the tendency to self-preservation. With such a fulness of life, and such a vigorous striving at development, even so rich and fertile a soil as this is not capable of furnishing the necessary nourishment in sufficient abundance; hence those gigantic trees are in a constant struggle for their own preservation, and impede each other's growth, still more than do the trees in our forests. Even the stems which have attained a considerable height, and require a large supply of nutriment, feel the influence of their stronger neighbours, are suddenly arrested in their growth by being deprived of the requisite juices, and thus become, in a short time, subject to the general laws of nature, which lead them to a rapid dissolution. Thus we see the noblest trees, after suffering an atrophy of some months' duration, eaten away by ants and other insects, seized with decay from the root to the summit, till, to the terror of the solitary inhabitants of the forest, they fall down with a tremendous crash. In general it is remarked that stems which stand singly, among several of a different kind, are more easily kept down by the latter. When, at some future period, a regular system of forest cultivation, which, indeed, has not yet been thought of in these thinly peopled woods, shall be introduced, it will be found necessary, not so much to promote the growth of the trees close together, as to take care that they stand at a sufficient distance from each other.

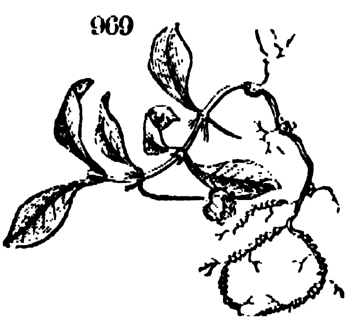
Brazil nuts are the fruit of Bertholletia excelsa, (*fig.* 968.) one of the most interesting plants of the New World, and which deserves to be cultivated in the warm parts of America, as the almond and walnut are grown in Europe. It has been stated that the weight of the fruit is so enormous, that at the period when it falls, the savage natives dare not enter the forests without covering their heads and shoulders with a strong buckler of wood. The people of Esmeraldas still describe the dangers which they run, when this fruit, which is as large as a child's head, and whose shell is so hard as almost to defy the sharpest instrument, drops from a height of fifty or sixty feet. The produce is abundant, each containing from fifteen to twenty large and well-flavoured kernels. Humboldt declares himself to have been most fortunate in procuring Brazil nuts during his voyage on the Orinoco. He and his party had subsisted for three months on bad chocolate and boiled rice without butter or salt, when they procured a quantity of the Bertholletia excelsa, which the Indians had just been gathering in the month of June. The Portuguese of Para have long carried on a considerable traffic in these nuts, which they export to Guiana, Lisbon, and England; and the oil extracted from them is much esteemed in Brazil. A French privateer captured, during the war, an English vessel, loaded with Brazil nuts, which were purchased by a merchant of Rouen, who found the oil they afforded so preferable for burning to that extracted from any European fruit, that he wrote to Paris to enquire the botanical name of the tree that bore these nuts, and for information as to its native country, with a view to obtain a larger supply.

968



Brazil Nuts.

969



Cephaelis Ipecacuanha.

The Brazil Wood of commerce is the produce of Cæsalpinia brasiliensis; and Rosewood, now so well known and extensively employed as an ornamental material for furniture, that of a Jacaranda.

Balsam of Copaiva is afforded by the genus Copaifera.

Ipecacuanha, the true Brazilian drug, respecting which there has been so much discussion, is the root of the Cephaëlis Ipecacuanha of Richard (*fig.* 969.). Its discovery is due to the native Brazilians. Marcgraaff and Pison were the first who made it known in Europe, and experiments proved the utility of this truly valuable drug. Their description, however, was so defective that Ipecacuanha was long used before the plant that produced it was known: till in 1800, Dr. A. Gomes brought flowering specimens to Europe, which Brotero described in the *Transactions of the Linnæan Society*, and thus set all uncertainty at rest.

The use of Ipecacuanha is too universal to render a long detail of its qualities necessary. Everybody knows that it is emetic and sudorific, and useful in chronic catarrh, strengthening the digestive organs, and curing the dysentery. A small trade is carried on in Ipecacuanha at Rio Janeiro. According to Gomes, 430 arrobas were exported in 1795, and 314 in 1800. The substance is easily recognised, and this is the only ipecacuanha actually sent abroad from the capital of Brazil; for it is not true that the roots of Ionidium Ipecacuanha, still less those of Ionidium parviflorum, which grows in a very distant province, are mixed with those of the true Cephaëlis Ipecacuanha. Though this latter has been exterminated in the environs of Rio Janeiro, and near most of the large towns, it is still very common in many spots; but the practice of pulling up the plant indiscriminately, whether the seeds be ripe or otherwise, with the daily diminution of the virgin woods, where it grew abundantly, cannot fail to render it scarce; and it were most desirable that some plan for cultivating it were adopted. This is easily accomplished by seeds or runners; and it requires no care, if grown under the shade of large trees; but an artificial shelter would be necessary, if it were cultivated in open spots.

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Chocolate Tree.

Cacao, probably an aboriginal native of Brazil, though extensively cultivated in other warm countries, is the fruit of the Theobroma or Chocolate tree (*fig.* 970.). The latter, which is an Indian appellation, is derived from the neighbouring coast of Choco, where the Cacao is much grown; and so fond are the Colombian and Peruvian ladies, more especially the nuns and *devotas*, of this national beverage, that the temporary want of it is considered quite a misfortune; almost as heavy as the loss of tobacco. Such inveterate smokers are the fair Popayanejas, that when the possession of Cauca by the patriot army cut off their supply of this article and of sugar, they used to send their slaves to pick up such ends of cigars as had been dropped in the streets; and when they had exhausted all the *caramelas* and syrups of the apothecaries' shops in sweetening their indispensable chocolate, they bethought themselves of boiling dried figs, and using the sweet liquor thus obtained, as a substitute for sugar. The generic name Theobroma (food of the gods), was conferred on this tree by Linnæus, to mark his opinion of the excellence of its seeds; though Benzoni, who travelled in South America in the sixteenth century, formed a different estimate of its merits, and declared that chocolate was "a drink fitter for a pig than a man." The Cacao is the kernel of this tree, which it is customary to bury for forty days, in order to deprive it of its acrid flavour: many aromatic ingredients, especially Vanilla, being added to do away its native nauseous taste—"Le moëlleux Cacao s'embaume de Vanille," according to the author of *Les Jardins.*

The following is the process used by the chemist, M. Cadet, in preparing Chocolate. The Cacao seeds are roasted like coffee beans, either in an iron pan or a cylinder; and, when half cold, are spread on a table, and bruised with a wooden rolling-pin, to remove the arillus: then they are winnowed, sifted, and cleansed. When the kernels are perfectly purified, they are pounded in a mortar of heated iron over burning charcoal, and thus reduced to a coarse paste, which is set to cool on a marble slab. A second rolling is bestowed with a steel cylinder on a smooth freestone, and as soon as the paste becomes sufficiently smooth, it is mixed with sugar in a hot basin and poured into tin moulds. Cadet mixed 8 lbs. of the Caracca Cacao, which is the finest kind, with 2 lbs. of the third kind (Island Cacao), and 8 lbs. of powdered sugar. The addition of ginger, cloves, and pimento, and even musk and ambergris, commonly given in America, renders chocolate, which is by no means easy of digestion, still more heating and exciting. Cadet recommends that only 2 oz. of cinnamon and 3 oz. of vanilla should be put into 20 lbs. of plain chocolate paste. Chocolate is not very much consumed in England and the United States; it is in greater esteem in France; it forms the ordinary breakfast in Spain; and in Mexico, according to Humboldt, it is not considered an object of luxury, but of prime necessity.

The botany of the northern parts of South America, namely, Guiana and Colombia, is far less known than that of Brazil. Guiana presents a singular appearance as you approach it from the sea, being remarkably low for a great extent towards the interior, so that it cannot be discovered, even from the mast-head of a vessel, until close to it. It then presents a curious fringed aspect; for nothing but the tops of the tall trees by which the land is covered are visible on the horizon, apparently floating in the air; being seen through the medium of an atmosphere charged with watery vapours, that are raised by the excessive heat of the climate from a humid soil. "Up the Orinoco," says the lively author of Campaigns and Cruises in South America, "the scenery is strikingly beautiful; and, when viewed from a ship's deck as she glides slowly along the smooth water, presents a magnificent moving panorama. The banks on each side are covered with impervious forests of majestic trees, chained to each other, as it were, by the Bejuco or gigantic creeping plant of South America, which grows to the thickness of an ordinary cable. These ancient trees, when decayed through length of years (for the axe of the woodsman has never yet resounded in these wilds), are supported upright by these enormous plants, which bear a striking resemblance to the huge water-snakes that lurk in the swamps beneath. There are many other parasitical plants which bear flowers of various brilliant colours, forming festoons on the trees to which they cling. Among the branches, monkeys of every description gambol and follow the vessel, springing from tree to tree by means of the Bejuco, which has obtained, from this circumstance, its Indian name of monkey's ladder. The most conspicuous among this mischievous tribe is the araguato, a large red monkey, always seen in herds, the young ones clinging to their mother's shoulders. These are very destructive among the plantations, where they pull up and destroy more roots and fruit than they eat or carry away. Their howling during the night is much louder than could be considered possible, considering the size of the animal. The noise they make may be easily fancied to proceed from panthers, or other large beasts of prey. This is so much the case, that three English soldiers, who had deserted from Angostura, were so terrified by the noises made by these animals in the middle of the night, that they hailed the boats in which the other troops were, and begged to be taken on board, declaring that they were surrounded by tigers. Parrots and macaws, with toucans and other birds of beautiful plumage, complete this splendid picture, and fill the air with their discordant screams, to which the metallic note of the darra or bell-bird, responds at measured intervals; at one moment sounding close to the ear, and the next, dying away in the distance. Up the small creeks, which are completely embowered by magnificent evergreens, are seen pelicans, spoonbills, and garzons, or gigantic cranes, all busily employed in fishing. When to this is added the occasional appearance of that tyrant of the stream, the alligator, floating in conscious superiority among the bulky manatis and the more agile toninos, which are incessantly rising and blowing in shoals, the scene may be somewhat imagined, but cannot be adequately described."

Among the many medicinal and poisonous plants growing on the banks of the Orinoco, one of the most singular is a species of Bejuco, which, when properly administered, proves a powerful preservative from the effects attending the bite of every description of poisonous serpents. It even appears to deprive these reptiles either of the power or inclination to use their fangs. Some of the leaves and small branches are pounded, and applied in this state as a cataplasm to both arms; the skin having been previously scarified freely above the elbows. This species of inoculation is repeated at stated intervals; the juice of the bruised plant, diluted with water, being also occasionally drunk. Several soldiers, belonging to General Zedeño's division of the patriot army, had undergone this treatment, and frequently found the advantage they thus had acquired. They were thereby enabled to take shelter in deserted huts, which others dared not enter, for fear of the snakes always lurking in such places; although those men could bring them out in their hands without sustaining any injury. No deception was practised, nor any reward asked or expected, for exhibiting their skill in destroying these reptiles. The Sarsaparilla grows in the same neighbourhood in great abundance. Some of the creeks are so full of it, that the natives come to them for leagues around, to bathe, and drink the water, which they assert to be sufficiently impregnated with the virtues of the plant to effect cures in many obstinate chronic complaints.

Among the splendid parasitic orchideous plants, which invest the living as well as the dead trunks of the forest trees with verdure and blossoms not their own, is the Vanilla (*V. aromatica*) (*fig.* 971.); the fruit of which is so well known for its very sweet and balsamic odour, and its warm, pungent, and highly agreeable taste. A volatile and odoriferous oil is extracted from it, which both water and alcohol take up. Three kinds of vanilla are distinguished in commerce: the Pompona or Bova, which has very thick, swollen, and strong-scented pods; the Vanilla de Ley, or legitimate vanilla, which is the best, and has slender and very fragrant pods, of a deep rich brown, neither black nor red, neither too dry nor too gummy: of this kind it is requisite that the packet of fifty should weigh at least five ounces, that which carries down eight ounces being considered *sobre buena*, or superexcellent. The fragrant scent of this latter kind produces an intoxicating or drowsy effect; the fresh pod being filled with an oily fluid, replete with innumerable small black seeds. The third sort is called Bastard Vanilla, and is the worst of all. It is probable that all the kinds are but varieties, arising from soil, culture, degree of maturity, and perhaps mode of preparation. According to Aublet, the following is the process to which the inhabitants of Guiana subject the vanilla:—When a dozen or more pods are gathered, they string them as quickly as possible near the peduncle,

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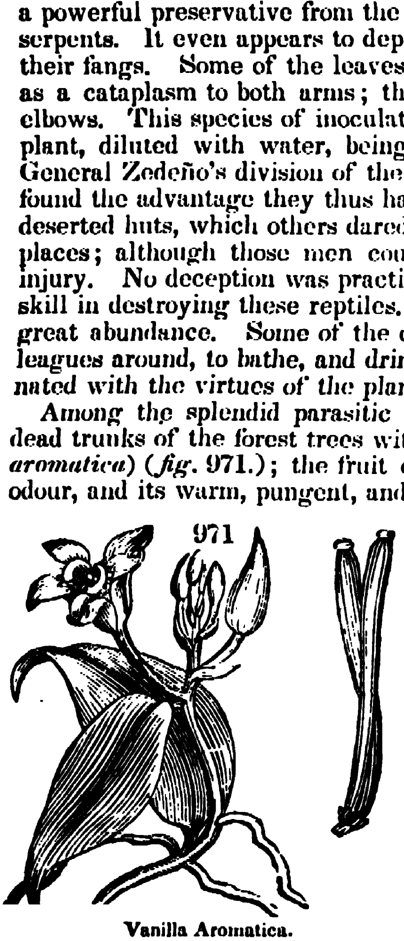

Vanilla Aromatica.

and bleach them instantaneously, by dipping them into boiling water. Then they are hung up in the open air exposed to the sun, and the following day smeared with oil, to prevent their shrinking or drying too fast. It is necessary, also, to bind them round with an oiled thread, that the pods may not split open. While hanging up, the superabundant viscous fluid flows from the point which is downwards, and they lose their clamminess, and become brown, wrinkled, soft, and shrunk to a quarter of their former size. In this state they are rubbed with oily hands and deposited in a varnished pot, to keep them fresh. In the torrid parts of America, it were most easy to cultivate vanilla, and to produce much larger quantities than are now obtainable; but the inhabitants only collect such fruit as is found on the wild plants, which are confined to the shores of creeks and other swampy spots liable to occasional inundation. There the vanilla twines over the stems of the mangrove, and flowers in the month of May, bearing its fruit in September. The use of vanilla should be confined to persons of feeble constitutions; its heating and irritable qualities would render it dangerous to such as are liable to feverish, inflammatory, or cutaneous symptoms. It is used in cakes, lemonade, sherbet, and ice; but especially for giving a flavour to chocolate.

Cayenne Pepper is the fruit of Capsicum annuum.

The Bixa Orellana, or Arnotta, which yields the dye with which cheeses are coloured red, arrives to the stature of a large tree in Guiana.

Quassia, that intensely bitter drug, is the wood of Quassia amara.

The Cannon-ball Tree (*Couroupita guianensis*) is a striking plant, an inhabitant of Guiana, remarkable for the size and beauty of its blossoms and for the magnitude of its fruit. The tree grows to 50 or 60 feet high, covered with foliage that is mixed with racemes of flowers, sometimes containing a hundred highly fragrant blossoms, of a lovely crimson red colour, succeeded by enormous fruits. The fallen shells or husks that strew the ground, so nearly resemble a cannon-ball, that one might easily imagine a company of artillery had bivouacked in its shade. If we may trust in the poetic language of M. Descourtilz, *Flore Pittoresque et Médicale des Antilles*, the noise these fruits make in falling affords an additional reason for the name. "Beneath a pure and dazzling sky," says he, "gracefulness is ever united to the magnificence of nature; there the hidden streams only reveal their presence in gentle murmurs, or by the silvery light that they cast upon the rocks, or the soft sound with which they trickle through the grass, or the increased verdure with which they endow the plants. But when the silence of nature is broken by those violent hurricanes which too often, in the torrid zone, blast all the hopes of the cultivator, you may hear the report of the fruits of the cannon-ball tree, whose bursting produces an oft-repeated echo, and resembles the rolling fire of a discharge of artillery." The shell is used in South America for domestic purposes, as the calabash. The pulp contains sugar, gum, malic, citric, and tartaric acids, and is employed to afford a refreshing drink in fevers; but in the perfectly ripe state, it exceeds whatever is filthy, stinking, and abominable in nature; yet the scent is remarkably vinous, and so permanent, that on examining some portions of the fruit that had been preserved in rum two or three years, the native odour of the plant was found to be so strong, as to render the apartment almost insupportable. Insects revel in this filthy and disgusting pulp. Beetles and earwigs feed upon it; while the formicas find shelter in the hollow of the shells.

Among the palms, the Manicot Palm and the Cokarita are the most celebrated.

Of the different kinds of Yam, which are cultivated in most tropical countries, though only natives of intertropical India, we have spoken more fully in treating of the vegetable productions of the South Sea Islands, where they form one of the principal articles of food to the natives.

Batatas, or sweet Potatoes, are the fleshy, spindle-shaped roots of a Convolvulus (*C. Batatas*). There are several varieties, the culture being easy, and the plant bearing Batatas at all seasons of the year, those put into the ground in February being fit for use from June to March of the following year. In the South of France, the Convolvulus Batatas is cultivated in the open air, in a warm situation and light soil, but a hotbed is requisite for its growth in more northern countries. This root is nourishing and of easy digestion; and forms a staple article of food in many parts of South America, especially Guiana. There are various modes of cooking it, either made into cakes, boiled, or baked; but the best way for preserving its genuine flavour is to steam the roots or to bake them under the ashes. This is the kind of potato which is alluded to by Shakspeare, as possessing stimulating properties (in his comedy of the Merry Wives of Windsor), and not the root of Solanum tuberosum, which was unknown in Europe in the time of the great English dramatist. The Batatas contain a great deal of saccharine matter, and when submitted to the process of distillation, afford an alcohol, of which many of the South American nations are but too fond. The foliage is much relished by cattle; and cows that are fed upon it yield an increased and improved quantity of milk.

Cassava bread is nowhere, perhaps, more abundantly prepared than in Guiana. It is produced from the root of the Jatropha Manihot (*fig.* 972.), and in the following manner:—The

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Jatropha Manihot.

root is rasped on large tin or wooden graters, fixed on benches, behind which the women employed in making it stand in rows. A sufficient quantity having been rasped for one time (as the surplus would ferment and spoil), they put it in long circular baskets of plaited rushes, about 10 feet long, and 9 inches in diameter, called mangueras. These are hung up, with weights attached to the lower end, which draw the plaited work tight together, diminishing its capacity, and squeezing out the juice. When all the fluid is extracted, the mangueras are emptied of their contents on raw hides, laid in the sun, where the coarse flour soon dries. It is then baked on smooth plates, made of dry clay, with a slow fire below. This is the most difficult part of the process. The coarse flour is laid perfectly dry on the hot plates, where the women, with a dexterity only to be acquired by practice, spread it out in a round and very thin layer, nearly the size of the plate it is laid on. This they do, merely with a piece of calabash, which they keep in constant motion; pressing gently every part of the surface, until the heat has united the meal into a cake, without in the least altering its colour or scorching it. Their method of turning a cassava cake of that size resembles sleight of hand; for they effect it with two pieces of split cane, without breaking it, though scarcely so thick as a dollar, and only as yet half cemented together, and of a substance always brittle, especially when warmed. This bread is very nourishing, and will melt to a jelly in a liquid; but it is dangerous if eaten in any quantity when dry, as it swells, on being moistened, to many times its original bulk. It will keep good for any length of time, if preserved in a dry place. The expressed juice deposits, after standing for some time, a fine white starch, which, when made into jelly, is not to be distinguished from that prepared from the arrow-root.

When it is considered that the Jatropha Manihot belongs to a highly poisonous tribe, and is itself one of the most virulent of the species, it cannot but excite astonishment to find that it yet yields so abundant a flour, rendered innocent by the art of man, and affording nourishment to many thousands in South America. Even in our own country it is largely imported and served up at table, under the name of Tapioca. Such is the poisonous nature of the juice of Manioc, that it sometimes occasions death in a few minutes; and thus many of the unhappy Indians destroyed their Spanish persecutors. A Surinam physician administered it, by way of experiment, to dogs and cats, who died after twenty-five minutes of dreadful agony. Dissection proved that it operated by means of the nervous system alone, an opinion confirmed by thirty-six drops being afterwards given to a criminal. These had scarcely reached the stomach when such torments and convulsions ensued, that the man expired in six minutes; three hours afterwards the body was opened, when the stomach was found shrunk to half its natural size; so that it would appear that the fatal principle resides in a volatile substance, which may be dissipated by heat, as indeed is satisfactorily proved by the mode of preparing the root for food. The root of manioc is also the basis of several fermented liquors, and the leaves are boiled and eaten. An acre of ground planted with the Jatropha Manihot yields nourishment to more persons than six acres cultivated with wheat.

A delicate aromatic seed is known in this country by the name of Tonquin Bean. This is the seed of Dipterix odorata.

Among the numerous interesting plants of South America, two are especially deserving of notice; the Cow Tree and the Arracacha. The first of these (*Galactodendron utile* of Humboldt) is almost confined to the coast Cordillera near the Lake of Maracaybo. Humboldt had often heard of this tree, and been assured that the negroes on the farm, who drank plentifully of this vegetable milk, regarded it as wholesome: but so acrid and poisonous are all other lactescent trees, that nothing but experience convinced him that the virtues of the Palo de Vaca are not exaggerated. The tree is handsome, with the general aspect of the Star Apple (*Chrysophyllum Cainito*). When incisions are made in the trunk, an abundant gummy and thick milk exudes, which diffuses a pleasant balsamic smell. Humboldt drank a large quantity of this milk, night and morning, without experiencing any disagreeable effect, the tenacity of the fluid being the only thing that was unpleasant. The negroes soak their Maize or Cassava bread in it; and give the name of cheese to the curdy, tough, membranaceous substance which collects on the surface, after some days' exposure to the air. Humboldt says:*—"Among the many curious phenomena that I beheld during my journey, there was hardly any that struck my imagination so forcibly as the Cow Tree. Every thing connected with milk and with farinaceous food inspires us with interest, and reminds us of our helpless infancy. Ancient and modern nations have felt a religious veneration for grain; and milk seems exclusively an animal production. Such being our first impressions, the surprise that seizes the mind at the sight of such a tree is but natural. It grows on the rocky side of a mountain, scarcely insinuating its roots in the stone. For many months, not a shower of rain falls on its dry and coriaceous leaves, the branches seem dry and dead; but pierce the trunk, and a sweet and nourishing milk flows. At sunrise, this vegetable source is most abundant; then the blacks and native people hurry from all parts, provided with jugs, to catch the milk, which turns yellow and thick on the surface. Some drink it on the spot, and others carry it to their children, till one might fancy that a cowherd was distributing to his family the milk of the flock." From this extraordinary fluid, Dr. Thomson has extracted a new substance, which he calls Galactine.

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* *Relation Historique*, book v. ch. xvi. p. 109.

The Arracacha (*Arracacia esculenta*, Bot. Magazine, t. 3092.) is a productive and hardy root, grateful to the palate, and of easy digestion. It is peculiar to the hilly country, and is particularly cultivated near the city of Santa Fé, where it is planted in the same manner as potatoes, to which it is preferred, resembling, in shape and taste, the Jerusalem artichoke. The natives frequently use it, together with maize, for making that celebrated Indian beverage called chica, which is commonly drunk by the mountaineers. The roots are irregularly shaped, and adhere in clusters to the original plant. The culture of the Arracacha root has lately been extended to Jamaica, the climate of which seems perfectly suited to its nature. The soil which suits yams appears equally adapted to the Arracacha.

Subsect. 3.—*Zoology.*

The Zoology of Brazil is of such a nature, that we know not how to convey an adequate idea of its magnificence or its richness. Yet, if we view it in reference to that of any other region of equal extent, it is beyond dispute the most splendid in the world. This extraordinary luxuriance of animal and vegetable life, which is the chief characteristic of the New World, but more particularly of its intertropical regions, has been the astonishment and admiration of all who have visited its shores. But no one has more happily illustrated, with every appearance of truth, the probable causes of this fecundity, than the celebrated Humboldt. "The narrowness," observes this accomplished traveller, "of this variously indented continent, its great extension towards the icy pole, the wide ocean over which the tropical winds blow, the flatness of the eastern coasts, the currents of cold sea-water which flow northwards from the Terra del Fuego towards Peru; the number of mountains, the sources of countless springs, and whose snow-clad summits tower above the clouds; the abundance of large streams, which, after many windings, always seek the remotest coast; deserts without (naked) sand, therefore the less heated; impenetrable forests which cover the well-watered plains near the equator, and which in the interior of the country, where the mountains and the water are most remote, exhale immense masses of imbibed or self-producing water: all these circumstances give to the flat portion of America a climate which, by its moisture and coolness, forms a surprising contrast with that of Africa. To these causes are to be ascribed that extraordinary luxuriance of vegetation, that exuberant foliage, which forms the peculiar characteristic of the New Continent."

In applying these philosophic observations to Brazil, some modifications must be made, and some exceptions pointed out. Two years spent in traversing these enchanting regions, and exploring their zoological treasures, enable us to state the following particulars from personal observation. Vegetation, indeed, covers every portion of this immense empire, but in very different degrees, and with some remarkable modifications. A stupendous range of virgin forests may be said to extend from one extremity of Brazil to the other, running parallel with the coast, and forming a magnificent belt between that and the interior: here the soil is uncommonly rich, being principally vegetable mould, or a fat red loam. In these virgin forests vegetation attains its greatest luxuriance: they produce all the large timber trees; and the ground, when cleared for cultivation, gives an amazing increase. But no sooner does the traveller pass beyond these limits, than he meets with a totally different country. The Sertam districts then commence; a name indiscriminately applied by the Brazilians to all inland parts situated beyond the virgin forests of the coast; nevertheless, the natives give more accurate distinctions to the different features of the interior. The names of Campo and Tabulara are applied to those extensive and somewhat elevated plains which are covered with coarse grass, or interspersed, like a park, at short distances, with low and often stunted evergreens. Clear of underwood, and open to the traveller in every direction, these plains are frequently broken by narrow valleys, or gentle hollows, where the trees become rather higher and acquire a more flourishing growth, thus forming woods; yet they are so matted with an underwood of cacti, bromeliæ, and other spiny shrubs and plants, as to be almost impassable to any but the hunter. These dry woods are termed Catingas. The general character of the soil in all these situations is more or less sandy, and, although never destitute of verdure, the vegetation can scarcely be called luxuriant, particularly when compared to that of the coast and the majestic virgin forests which border its shores. These observations are not, of course, applicable to the mountainous districts of the mines, but are descriptive, with little variation, of all those provinces north of Minas Geraes. It is this diversity in the aspect of the country which so naturally influences the distribution of its animals as well as its vegetables. The number and variety of insects towards the coast is inconceivable; moisture and shade, with rich and soft vegetable juices, seem essential to numerous tribes; but on the campos and tabularas, and in the catinga woods, where the soil is dry and hot, water scarce, and the foliage harsh and stunted, insects really appear to be scarce; for the traveller may journey onwards for hours, without being attracted by the appearance of a butterfly. The birds, indeed, are much more numerous, particularly those of the Tanager family, as these derive their principal food from the small fruits and berries which the catinga trees produce in abundance. But we must no longer dwell on these general peculiarities, however interesting, but proceed to a rapid sketch of those tribes most remarkable in the zoology of Brazil.

Among the Quadrupeds, we are struck with the number and variety of Monkeys and Bats. The satyr-like Apes and Baboons of the Old World far exceed in size any of their tribe yet discovered in America; neither are the genera of this continent similar to those of Africa or of India; all have tails, but are without cheek pouches or naked callosities on their buttocks. The Howling Monkeys (*Mycetes* Ill.) live in the deep recesses of the virgin forests, and are heard morning and evening sending forth such tremendous and frightful howls, as to impress the listener with the idea of the sound proceeding from some gigantic and ferocious animal. The Ursine Howling Monkey (*M. ursina* Humb.) is of this description, and although small, its voice, louder than that of a bear, is perfectly terrific. Monkeys are only abundant in the virgin forests: they live entirely among the loftiest trees; and their tails, being prehensile, give them an additional facility in leaping and jumping from branch to branch with the most perfect ease. No less than sixty-five species are described as natives of Brazil and the regions adjacent.

The Bats are surprisingly numerous; and are, no doubt, powerful instruments to keep within due limits the myriads of flying insects: some, however, live almost entirely upon fruits, while others, like the deadly vampire of the East, enter the cattle stables, and even the huts of men, and suck the blood of both. We have more than once had a horse or mule so much weakened by these animals during the night, as to be incapable of travelling.

The ferocious Quadrupeds are mostly small, and, although of many species, they appear to be few in number, and are fearful of man. The largest are the Puma and the Jaguar, the last being a most formidable animal. There are, besides, several small and elegantly marked Tiger Cats; but the Lion, Tiger, Panther, Hyena, and the whole list of savage quadrupeds so common in Africa or in India, are totally unknown in the New World.

The Puma (*F. concolor*) may be said to represent the Lion in the New World; like that, it is large and uniformly yellow, but without a mane or tufted tail. It is about five feet long, and two and a half high. Azara informs us that it climbs trees with the greatest ease, although it generally lives in the forests, and lies concealed in underwood. In its wild state, it never attacks man; and when in confinement becomes as gentle as a dog. Whether this Paraguay species is the same as the Puma mentioned by Major Smith, (*Grif. Cuv.* 2438.) is not quite clear.

The Jaguar (*F. onca* L.) is not unlike the American panther: they are solitary animals, inhabiting thick virgin forests. They attack cows, and even bulls of four years old, but are especially enemies to horses. It will, indeed, not attack man, unless pressed by hunger; but this is no security to the traveller, as Azara mentions an instance of two men who were seized and carried away by these animals when sitting before a large fire. There are two races, the one larger than the other, but both are fierce and untameable. The Tapir and different species of Sloth are well known inhabitants of tropical America, and have been repeatedly described. The Armadillos likewise belong to this continent. Travellers mention small deer; while numerous Cavys, Squirrels, and lesser quadrupeds, abound. Horses and mules are the only beasts of burden, and sheep are almost unknown.

The ornithological features of Brazil have already been noticed; and, in regard to species, it may safely be pronounced the richest in the whole world. Not more than one-fifth of the whole empire has been yet explored; yet upwards of 500 different birds have been already discovered, and new objects are continually enriching our museums. To enumerate these would be tedious, even were it possible; but a few general particulars will not be misplaced.

The Rapacious Birds are not proportionably numerous. Large Black Vultures are everywhere seen perfectly tame, and sitting on trees by the way-side, ready to devour offal or any dead animal substance. They appear of a different species to the turkey buzzard and black vulture of the United States. The King Vulture (*V. papa* L.) is nearly of the same size, but is much more rare, and is remarkably elegant in its plumage. The forests of Guiana, Pará, and other parts of Brazil, shelter the Aquila destructor, or Great Destroying Eagle, one of the most formidable and ferocious of birds. It considerably surpasses in size the golden eagle of Europe, measuring near three feet long; the back and upper plumage is black, the under grayish white, and on the hind head is a semicircular crest of feathers, which is erected at pleasure. It flies with majestic rapidity, and preys only upon the larger quadrupeds, as deer, sloths, monkeys, &c., pursuing them indiscriminately, and tearing them to pieces by its enormous talons. In contrast to this formidable bird of prey is a little owl, not much bigger than a sparrow, a pair of which were the first birds we shot after landing in South America. The Caracara, or Brazilian Crested Eagle, we have recently illustrated (*Zoological Illustrations*, Pl. 2.), and many other buzzards occur towards Paraguay.

The extensive order of Perching Birds offers numerous tribes conspicuous for their beauty, their splendour, or their singularity. The Tyrant Fly-catchers (*Tyranninæ* Sw.) are seen in all the open tracts, perched on the surrounding branches, and perpetually on the watch for insects. The Water-chats (*Fluvicolinæ* Sw.) run along the sides of the rivers and lagoons bent on the same pursuit, and perpetually wagging their tails. In the damp and thick virgin forests reside small troops of those elegant little birds, the Manakins (*Piprinæ* Sw.), varied with black, golden, and azure blue, seeking the soft berries of the Melastomæ and other similar shrubs. The Trogons (*Trogoninæ* Sw.), Motmots (*Prioniti* Ill.), and Puff-birds, seek the most sombre shades; the Ant thrushes (*Myotherinæ* Sw.) and the Bush Shrikes (*Thamnopholinæ* Sw.) are more frequent in the catinga woods; while perched upon the higher trees are seen flocks of Toucans (*Ramphastidæ* Sw.). The Fruit-eaters are heard morning and evening from the same situations; and one, called the Araponga, Blacksmith, or Bell-bird (*fig.* 973.), uttering a loud note like the noise of a hammer upon the anvil. On proceeding more inland, different tribes and new species await the traveller. The Chatterers (*Ampelinæ* Sw.), Woodpeckers (*Picianæ* Sw.), and Tree-creepers (*Certhianæ* Sw.) frequent the catinga woods, the former to feed upon berries, the latter to search for insects on the stems. Innumerable Tanagers, with flocks of variously coloured Parrakeets, occur in the tabulara woods, and on the less naked campos; while the palms, common to these districts, are frequented by splendid Mackaws, which crack the stone-like nuts with perfect facility.

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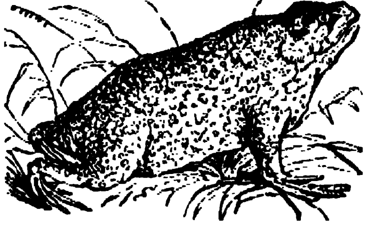
Araponga.

Humming-birds are to be seen wherever a tree is in full blossom, darting about from flower to flower, among splendid butterflies often much larger than themselves.

The Water Birds, along the swampy coasts of Pará and in some other parts, are abundant; but these tribes, upon the whole, are but locally dispersed. The splendid scarlet Curlew and the red Flamingo are met with near Pará, in flocks of many hundreds.

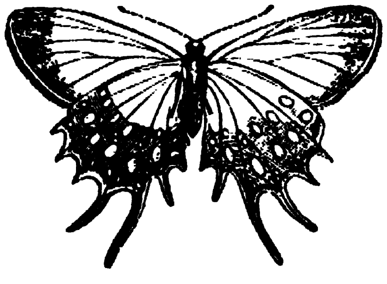
Serpents and Reptiles appear much less frequent than in the equinoctial regions of Africa. Alligators of a small size are often seen basking on the sunny edges of the savannahs; but others are mentioned by travellers of a much larger size and of more ferocious habits. The Rattlesnake appears to be unknown, or very rare, although there are other snakes whose bite is believed to be equally venomous: we must, however, observe that the Brazilians are uncommonly ignorant in these matters, and that we were particularly struck with the paucity of these reptiles met with in our daily journeys and woodland excursions. Many, however, are very beautiful in colour. Boas of a large size are said to be met with on the banks of the great rivers. The frogs in some situations are innumerable, and their croaking is almost deafening. We well remember a little negro boy bringing to us, as a curiosity even to the natives, a frog of such vast dimensions, that the little urchin could scarcely walk with it in both hands: its body was certainly bigger than the head of an ordinary man. We omitted to ascertain the precise species (*fig.* 974.).

974



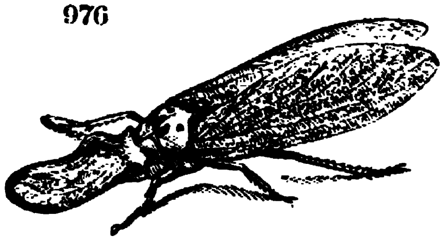
Brazilian Frog.

975



Cupid Butterfly.

976

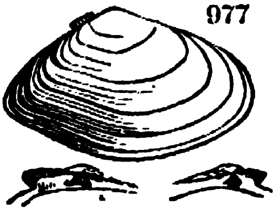


Great Fire-Fly.

To enumerate the countless variety of Insects would be almost impossible. Near the virgin forests they absolutely swarm. The diurnal Butterflies (*Papilionidæ*), more particularly, are of a size and brilliancy unrivalled by any in the whole world; of these gaily coloured tribes we estimate that between 600 and 700 species are found in Brazil alone. Some of the lesser are perhaps the most brilliant. One, in particular, named after the God of Love (*Pap. Cupido* L.) (*fig.* 975.), has the under wings embossed with gold spots in such a way as to appear as if liquid drops of that metal had fallen upon the wings and cooled without injuring them. Ants are as numerous as in Western Africa; but the scorpions and centipedes are small, rarely seen, and do not appear to alarm the natives. Many of the Beetle tribe are remarkable for their grotesque appearance, and others for the splendour of their colours. The Great Fire-fly (*Fulgora lanternaria*) (*fig.* 976.), is said to emit from its snout a light more sparkling than that from a dozen glow-worms. This fact, however, we have never verified, although we frequently found the insect. The Diamond Beetle we have before mentioned; but even this is surpassed in magnificence by two others of the same genus, peculiar to the more southern provinces towards St. Catharine's.

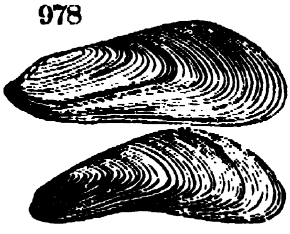
The Marine Shells of the Brazilian coast are remarkably few, the Capsa brasiliana (*fig.* 977.) being almost the only example of a genus peculiar to these seas. The exterior is covered with an olive epidermis; the interior is tinged with violet. Two new species of Modiolæ or Date-mussels (*fig.* 978.) have recently been brought from Rio de Janeiro.

977



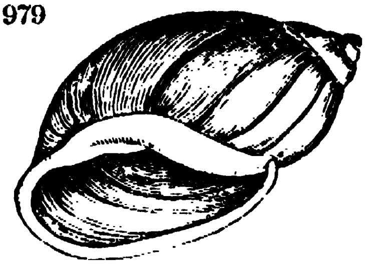
Capsa Brasiliana.

978



Date Mussels.

979



Bulimus Ovalis.

and the rare Voluta brasiliana of Lamarck is stated to have come from this coast. Few bivalve shells have yet been found in the large rivers; but these are different from all the North American species, and may be known by their superior iridescence. The genus *Hyria* Lam., and its various subgenera, among which is the Castalia of the same author, are all from the Brazilian rivers. Some very singular land shells also occur in the forests, one of which, the Bulimus ovalis (*fig.* 979.), often exceeds four inches in length.

Sect. III.—*Historical Geography.*

The coast of Brazil was first touched in 1499 by Vincent Yanez Pinzon, one of the companions of Columbus, who does not appear, however, to have penetrated far beyond the mouth of the Marañon. Next year it occurred unsought to Alvarez Cabral, while conducting a fleet from Lisbon to the East Indies, then the almost exclusive object of Portuguese ambition. In endeavouring to avoid the coast of Africa, he came upon Porto Seguro, which then appeared to be part of a large island. Cabral immediately sent back one of his ships with tidings of the discovery; and Brazil, as it was called from the ornamental wood which appeared its most valuable commodity, was speedily colonised. As it seemed, however, to yield no other important article, and as the ground could be kept only by severe contests with the savage natives, the progress of the settlement was slow, and it was long before it could come into any rivalry with those which had been formed by Spain.

The other European nations did not fail to dispute the possession of so wide and open a coast. Villegagnon carried over a body of French Hugunenots to Rio Janeiro, which was even for a short time termed Antarctic France; and the English attempted to fix themselves in the north at Paraiba: but the fierce and determined attacks of the Portuguese rooted up both these establishments. A more formidable effort was made by the Dutch, after the transference of Brazil to Philip II., with whom they were at open war. Under Prince Maurice they made themselves masters of the whole north of Brazil, which they held for nearly half a century. But their establishment having been too much reduced, and their attention being engrossed by other objects, the Portuguese, in 1654, commenced a series of brisk attacks, by which they soon recovered possession of the whole territory. After several attempts to retrieve their affairs both by arms and negotiation, the Dutch, in 1661, were obliged to make a final cession of Brazil to Portugal. The Brazilians had subsequently some occasional quarrels with the Spaniards, especially in 1762, when the governor of Buenos Ayres took from them the fortress of Colonia del Sacramento, which, however, was restored at the conclusion of peace in 1763.

The great prosperity of this colony dates chiefly from the year 1699. That was the epoch of the discovery of gold, which was succeeded by that of diamonds; two brilliant objects, which placed Brazil completely on a level with the richest of the Spanish possessions. At the same time the fertility of the soil was fully ascertained, and some progress was made in causing it to yield the richest articles of tropical produce.

The separation of Brazil from Portugal was first occasioned by events in Europe. Napoleon having sent Junot, in 1807, with an army to occupy Lisbon, the Prince Regent with all his court sailed on the 25th of January, 1808, for Rio Janeiro. Even after the downfall of the French imperial power had restored him to the dominion of Portugal, this prince, now king, lingered in Brazil, which seemed to be considered as decidedly the most valuable of the two portions of the empire. In 1821, however, the constitutional movements in both hemispheres induced him to return to Europe, leaving his son, Don Pedro, Regent of Brazil. The violence of the Portuguese cortes called upon the prince also to return, and his endeavour to reduce Brazil into a subordinate appendage of Portugal drove the transatlantic state into open resistance and decided separation. At the king's death, Don Pedro did not attempt to follow up his right of inheritance over both kingdoms, but contented himself with the American share. In consequence of internal disturbances, however, he has since been obliged to abdicate in favour of his infant son.

Sect. IV.—*Political Geography.*

The form of government in Brazil is an hereditary constitutional monarchy. The sovereign, who has the title of emperor, has the power of making peace and war, concluding treaties with foreign powers, nominating the principal officers of the empire, and of the provinces, &c. The legislative body is composed of two houses chosen by indirect election, that is by electors chosen for this purpose. The senators are elected for life; the deputies or representatives for the term of four years. These houses have the usual powers of legislative bodies in constitutional monarchies: they regulate the course of public affairs, fix the amount of the military establishment, create and suppress public offices, impose taxes, authorise the raising of loans, &c. The imperial ministers are responsible to them for violations of the constitution. Each province has also its local assembly and governor for administering provincial affairs. There is, however, a great difficulty in enforcing the measures of any general and central administration over so wide an extent of country, and over provinces so deeply imbued with a local spirit. The northern districts, in particular, have made vigorous attempts and still cherish the wish to form a separate and republican government, on the model of those now established over the rest of America.

The revenue of Brazil is stated at about 15,000,000 dollars. This is burdened with a debt of 50,000,000 dollars. The military force consists of 30,000 troops of the line, with 50,000 militia; and there is a marine, composed of 3 ships of the line, 8 frigates, and 25 smaller vessels.

Sect. V.—*Productive Industry.*

The natural capacities of Brazil are fully equal to those of any region in the New World. The soil is capable of yielding profusely sugar, cotton, coffee, tobacco, all the richest tropical productions; the forests are immense, and abound in the most valuable timber; the fields are covered with numberless herds of cattle; and the most precious of metals are found near the surface of the earth. Its chief defect is, that, destitute of those fine elevated tablelands, which cover so much of Spanish America, it affords no eligible situation for European colonists; and the labouring classes consist almost wholly of negro slaves; a circumstance adverse to its prosperity, and necessarily engendering many evils.

Dense and impenetrable forests (*fig.* 980.) cover a great part of the interior of Brazil, and exhibit a luxuriance of vegetation almost peculiar to the central regions of South America. "The infinite variety of tints which these woods display, give them an aspect wholly different from those of Europe. Each of the lofty sons of the forest has an effect distinct from that of the rest. The brilliant white of the silver tree, the brown head of the Mangoa, the purple flowers of the Brazil wood, the yellow laburnums, the deep red fungus, and the carmine-coloured lichens, which invest the trunks and the bark, all mingle in brilliant confusion, forming groups finely contrasted and diversified. The gigantic height of the palms, with their varying crowns, give to these forests an incomparable majesty. All these are interwoven with a network of creeping and climbing plants, so close as to form round the large trees a verdant wall, which the eye is unable to penetrate; and many of the flowering species, that climb up the trunks, spread forth and present the appearance of parterres hanging in the air. These woods are not a silent scene, unless

980

Brazilian Forest.

during the deepest heat of noon, but are crowded and rendered vocal by the greatest variety of the animal tribes. Birds of the most singular forms and most superb plumage flutter through the bushes. The toucan rattles his large hollow bill; the busy orioles creep out of their long pendent nests; the amorous thrush, the chattering manakin, the full tones of the nightingale, amuse the hunter; while the humming-birds, rivalling in lustre diamonds, emeralds, and sapphires, hover round the brightest flowers. Myriads of the most brilliant beetles buzz in the air; and the gayest butterflies, rivalling in splendour the colours of the rainbow, flutter from flower to flower. Meantime the beautiful, but sometimes dangerous, race of lizards and serpents, exceeding in splendour the enamel of the flowers, glide out of the leaves and hollows of the trees. Troops of squirrels and monkeys leap from bough to bough, and large bodies of ants, issuing from their nests, creep along the ground." It concerns us here to remark, that these immense forests are rich in timber of every description for use and ornament, suited either for carpentry, shipbuilding, dyeing, or furniture. That kind especially called Brazil wood is particularly celebrated for the beautiful red dye which it produces.

Agriculture is exercised in Brazil upon valuable products, and in fertile soils, but in a very slovenly manner. The farmers, till of late, were a most ignorant race, not believing that there were any countries in the world except Portugal and Brazil, nor any except the last in which the sugar-cane grew. They have begun, however, to hold intercourse with the world in general, and to introduce improved processes from the West India islands. Land is so abundant that they never think of employing manure, but break up a fresh spot whenever a cultivated one is exhausted. They do not even grub up the trees, but plant the sugar canes among the stumps, the luxuriant shoots from which cannot be cleared away without great labour.

Among the objects of culture, sugar has long been prominent; the rich and moist soils on a great part of the coast being particularly suited to it. Notwithstanding the cheapness of land, a considerable capital is necessary to establish a sugar plantation, including at least forty slaves and a variety of machinery. The amount is from 3000*l.* to 10,000*l.*, which is often borrowed, payable by successive small instalments. Cotton has of late become a leading article, in consequence of the extensive demand in Britain. The best is that of Pernambuco; that of Maranham and Seara being coarser, though it is the staple of both places. In the districts southwards it also declines, and at Rio Janeiro is of little value. Tobacco is cultivated, along with the sugar, for home use, and is an object of traffic between the provinces. Coffee is only of recent introduction; but within these few years the culture has been so vastly extended as to render it the most important object of Brazilian commerce. For food, chiefly to the negroes, manioc and kidneybeans are the articles most raised. Maize and bananas are not so much used as in most tropical countries. Rice is largely cultivated only in Maranham.

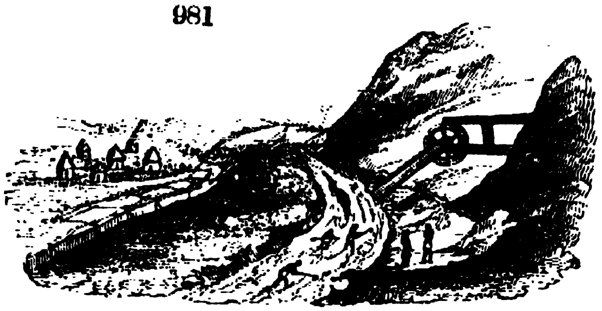
Cattle multiply to an immense extent in all the provinces of Brazil, but more especially in the south. The great farms contain 2000, 3000, 4000, and sometimes even 40,000 head. The bulk of these roam at large in a wild state, with no attendance except that of two or three peons or herdsmen, riding constantly round the wide pastures, to keep them within the bounds, and defend them against the attacks of wild beasts. Once a year only they are collected within an enclosure, and branded with the mark of the master. Portions of these roving herds are from time to time caught and killed, chiefly for the hide, though the flesh also is dried in a peculiar manner, and sent to the northern provinces. A certain number, notwithstanding, are tamed, to supply milk, and to serve for meat, which is considered more delicate than that of the wild cattle.

Mines, however, form the most celebrated, though by no means the most valuable, source of Brazilian wealth.

The gold of Brazil occurs, like that of Africa, in the form of dust brought down by streams which descend from the hills, and from which it is separated by agitation in water. No attempts seem yet to have been made to penetrate into the interior deposits of this precious metal. When the auriferous streams overflow their banks, the inhabitants, to whom the search seems generally left open, hasten in crowds to this attractive occupation. A man takes his station at the edge of the stream, and begins with a small hoe to open a trench, which may be carried in any direction that suits him, provided it does not encounter that of another adventurer. The water is allowed to stand through the day, and is poured off at night; the sediment deposited, called *cascalho*, is then carried home, and made, though by very rude processes, to render up its gold. That the soil may be impregnated in every direction, channels are formed down the sides of the golden mountain, and pits dug, by which processes it is perforated like a honeycomb; and the earth being all washed away, presents a picture of desolation which excites the astonishment of strangers. The produce of gold has greatly diminished, and on the whole the precious metal has proved to Brazil a fatal gift. The eager search and hope have continued after the amount ceased to repay the labour. A few instances of wealth suddenly acquired have generated a dislike of steady and regular occupation; and the rich soil in the neighbourhood of the mines, and from which the most solid wealth might have been derived, is allowed to lie waste. The fifth claimed by the king, though extensively evaded, presses heavily on this branch of industry.

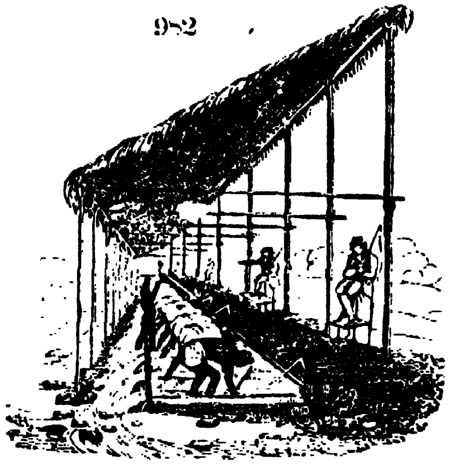
The diamonds of Brazil are a source of wealth still more brilliant, yet even less productive. The principal diamond ground is in a circuit of sixteen leagues round Tejuco, in the district of Serro do Frio. The trade has been monopolised by the government; and, as usual in such cases, has been conducted at a very great expense. Not less than 35,000*l.* annually is said to be expended in officers, negroes, machinery, and instruments. All proprietors resident near the spot eagerly proffer their negroes at a very low rate; to which proceeding it is alleged that sinister motives frequently impel them. The diamonds of Brazil are found in a situation similar to that of the gold, among portions of alluvial earth. Of all the depositories of diamonds, the most celebrated is the river Jiquitonhonha (*fig.* 981.), which flows nearly as broad as the Thames at Windsor. When worked, the channel is turned aside either by canals or pumps, and the earth from the bottom dug out. The cascalho is then laid in heaps by the side of a flooring (*fig.* 982.), divided into various compartments, into each of which a current of water is admitted. While this passes through, the cascalho is kept in constant motion by raking it till the earthy particles are washed away. The negro stationed at each compartment then begins a most diligent search for the diamonds. When he finds one, he claps his hands, and holds it up between his forefinger and thumb to the overseer, who places it in a bowl suspended from the centre of the structure. When a negro presents a stone of seventeen carats and a half, he receives his liberty; and handsome presents are given whenever any diamond of inferior, though of considerable, size is found. On the other hand, the strictest precautions are taken to prevent any from being secreted. Three overseers, placed on high seats, command a view of the whole group; and the negroes are frequently changed from one compartment to another, lest they should thrust a diamond into a corner, and return to take it away. There is an infinite variety in the size of the diamonds. Some are so very small, that sixteen or twenty are required to make up a carat; while, on the other hand, two or three are usually found in the course of a year, weighing from seventeen to twenty carats. It is not expected that one weighing thirty carats will be found oftener than once in two years. The diamonds of Brazil are larger than those of India, and as brilliant, but not so hard. At the first discovery of the mines they sent forth no less than a thousand ounces of diamonds, which made a prodigious impression on the market; but of late their annual produce has not much exceeded 22,000 carats.

981



Diamond River.

982



Washing for Diamonds.

Of other mineral products, iron and copper are said to abound in the interior province of Matto Grosso; but they have not yet been worked. There are also topazes larger than those of Saxony and Siberia, tourmalines, and rock crystal.

Manufactures have made smaller progress in Brazil than in any other of the South American colonies. The only fabric of importance is that of gold and silver, which is carried on in the capital to a great extent. The articles wrought are of great beauty, and are an object even of export.

Commerce flourishes in consequence of the very dependence of the country upon foreign manufactures, as well as the valuable products of its soil. Rio Janeiro is the centre of trade for the southern coasts, which send to it provisions for its own consumption, as well as hides, tobacco, sugar, and cotton; vast trains of loaded mules also come and go to the interior provinces, especially S. Paulo and Minas Geraes. Bahia carries on most of her trade, and Pernambuco and Maranham nearly all of theirs, direct with Europe and the United States. The southern provinces export wheat, hides, horn, hair, and tallow; the middle, gold and precious stones; and the northern, cotton, coffee, sugar, tobacco, and Brazil wood. The imports are chiefly wines, brandy, and oil, from Portugal; cotton, woollens, linens, hardware, and other manufactured articles from Great Britain; and flour, salted provisions, naval stores, and household furniture, from the United States. The total value of the exports is about 25,000,000 dollars a year, comprising 100,000 tons of sugar, 40,000 tons of coffee, 180,000 bags of cotton, 500,000 hides, &c. The value of the exports from the United States into Brazil is about 2,000,000 dollars; of imports from Brazil nearly 5,000,000. Great Britain imports into Brazil nearly 20,000,000 dollars' worth of her manufactures annually.

983

Crossing a River.

The roads from Rio to the leading points of the interior are said to be tolerable; though the entire absence of wagons seems to imply a very low degree of improvement. In the more unfrequented districts the roads are merely paths cut in the woods, and made extremely narrow, not only that less labour may serve to make them, but that the constant tread over one spot may check the continual encroachments to be dreaded from tropical vegetation. The numerous streams, destitute of bridges, and, in many cases, of ferry-boats, are crossed on rafts moved by poles, while the horse, held by the head, is made to swim over (*fig.* 983.).

SECT. VI.—*Civil and Social State.*

The population of Brazil has been very vaguely estimated, and generally much under the truth. Sir George Staunton, in the end of the last century, did not suppose it to exceed 200,000 whites, and 600,000 negroes. From further enquiries it was ascertained that the number could not be less than 3,000,000. But according to a report made to the king of Portugal in 1819, and different statements furnished by the captains-general and other officers, Brazil, between 1816 and 1818, contained 3,617,000 inhabitants. Of these there were 843,000 whites, 426,000 freemen of mixed blood, 159,000 free negroes, 1,728,000 negro slaves, 202,000 slaves of mixed blood, 259,000 Indians. The number must since that time have increased greatly, both from immigration and from the introduction of negro slaves, which, for some years, have averaged about 50,000 a year. The population of the empire cannot at present be less than 5,000,000, of which about one-fifth are whites, three-fifths slaves, and the remainder free coloured persons.

The great predominance of the negro population distinguishes Brazil unfavourably from the other South American states. By the above statement, it appears that not a fourth of the population are of unmixed white race, and that more than half the entire number are slaves. The continual importation of these negroes, the numbers who perished in the voyage, and the manner in which they were exhibited in open market, presented scenes equally distressing and degrading to humanity. By a law of the state, however, this importation was, in February, 1830, finally to cease. The existing slaves are exposed, of course, to all the capricious and brutal treatment of their masters; and with less protection from law than in the West Indies. On the whole, however, their actual condition is more favourable. Even the multitude of festivals affords a relief to the slave, and gives him opportunities of doing a good deal for himself. Public opinion is against the master who obstructs the negro in endeavouring to procure his own emancipation, and refuses a reasonable price for it. What is of more importance, as soon as the negro or mulatto is free, he labours no longer under that proscription which pursues him in the United States. He is admissible to all offices, is equal to the white in the eye of the law, and not very much inferior in public opinion. Mrs. Graham saw at the levee several negro officers taking in their black course hands the fair hands of the queen, and applying them to their lips. Mr. Mathison even conceives that, in the event of a slave insurrection, all the class of free negroes would make common cause with the whites.

Of the Brazilian character report does not speak very favourably. The emigrants consist, in a great measure, of adventurers, often of inferior rank, who have gone out with the view of amassing a fortune in any shape, and pursue a traffic partaking more of peddling and retail habits than of any liberal principles of trade. Many of the free negroes and mulattoes seem to have a good deal of the scoundrel about them. The ladies have less liberty than in Europe, and do not make the very best use of what they have. The charges against them seem often too sweeping; but, from the concurrent testimony of travellers, they rank lower than those of Europe, and have not the same graces either of attire or manners. Mrs. Graham, however, observed a warmth of domestic affection which she never saw equalled, unless in some of the Highland clans, and which shows itself rather unluckily by marriages of uncles with nieces, nephews with aunts, and others within the forbidden degrees. On the whole, the night of ignorance in which Brazil has hitherto been involved must serve as an excuse for many faults; and, in proportion as this is dispelled, much improvement may be expected.

Science, literature, and art have scarcely yet any existence in Brazil. Some of the higher classes, and of the officers of the government, are well informed, and the sea-port towns are beginning to imbibe the spirit and knowledge of Europe; but these improvements have made little way into the interior. In 1808, the prince regent carried out a library of 70,000 volumes, which is open to the public; and there is a museum, containing a fine collection of diamonds, crystals of gold, and other Brazilian minerals, but not rich in any other respect. The plan of founding an university is not yet executed; and the Brazilians who seek a finished education must cross the sea to Coimbra.

The Indians in Brazil are in a much more uncivilised and unpromising state than in the Spanish settlements. They have never been incorporated in any shape with the European population, but have always retired before the progress of civilisation into the depths of their forests. They have borrowed, indeed, from the Portuguese some scanty portion of raiment. But they have never attempted the taming of animals, or the planting of grain; they subsist solely on the spontaneous fruits of the earth, the roots which they can dig up, and the game brought down by their arrow, which they shoot with marvellous dexterity, taking an almost unerring aim at the distance of forty or fifty yards. They have always ranked, even among American savages, as pre-eminently rude and barbarous. They have been regarded as anthropophagi; though, perhaps, the evidence of late travellers to this point is not quite decisive; for we cannot admit as such the hideousness of their aspect, or their custom of devouring flesh half roasted. As among other savages, some most uncouth customs prevail. The Botocudos, who inhabit the back settlements of Porto Seguro, have a favourite mode of ornamenting themselves by what is called the *botoque*. This consists of large pieces of wood pendent from the ears and the under lip, to which they are fastened by holes bored for that purpose. The result is, that the ears are stretched till they hang down, like wings, sometimes to the shoulder; while the lip is made to project, and half the lower teeth are protruded in the processes of eating and speaking. They sometimes also paint themselves frightfully, the body black and the face red, probably to strike terror into their enemies. The Puries, Pataches, Machacaries, with sundry other tribes, of name and aspect equally uncouth, have the same general character, with sundry fantastic peculiarities belonging to each.

Sect. VII.—*Local Geography.*

The provinces of Brazil can scarcely as yet be exhibited in any very minute local and statistical details. In taking a view of their leading features, we may divide them into the provinces of the southern coast, Rio Janeiro, St. Catharine, Rio Grande do Sul or Pedro, Espiritu Santo; those of the northern coast, Bahia, Seregipe, Alagoas, Pernambuco, Paraiba, Rio Grande do Norte, Seara, Piauhy, Maranham; the interior provinces, Minas Geraes, San Paulo, Goyaz, Matto Grosso, Pará.

Rio Janeiro (*fig.* 984.), the capital of the empire, may now, perhaps, rank as the largest and most flourishing city of South America. It lies on the western side of a noble bay, seventy or eighty miles in circumference, forming one of the most spacious and secure receptacles for shipping in the world. Mrs. Graham, after successively admiring the bay of Naples, the Frith of Forth, and Trincomalee, considers the bay of Rio Janeiro as surpassing them all in beauty. It is studded with upwards of 100 islands; the ships of all nations are seen passing through its channels, and innumerable little boats flitting about. The shore rises immediately into green and wooded hills, thickly planted with villas and convents, and behind which lofty mountains shoot up their heads in the most picturesque and romantic forms. These objects compose the most enchanting scene that can be imagined. It struck a late traveller as greatly resembling the Trosachs at the entrance of Loch Katrine. The town is tolerably well built, much in the European style, the houses being three or four stories high, though the streets are rather narrow. Two of them extend the whole length, with new and broad streets striking off from them; and there are several very handsome squares. The town is well supplied with water, by excellent aqueducts. There is a greater stir and bustle than is usual in a South American city, though the crowd of half-naked blacks and mulattoes offends the eye of the newly arrived European. The population has been fixed only by rude conjecture. Before the arrival of the court, it was supposed to fall short of 100,000; but that event caused a great increase, and it has even been estimated as high as

984

Rio Janeiro.

150,000. The environs of Rio de Janeiro are delightful in the extreme, the valleys and sides of the hills being covered with trees, shrubs, and creeping plants of peculiar beauty. The bay of Bottafogo, and the sides of the rude and lofty mountain called the Corcovado, are the spots most particularly celebrated. The king has a rural palace, called San Christovao (*fig.* 985.), of light and pavilion-like architecture, and which from its site has a much more pleasing effect than that in the city. We have already noticed the trade of Rio Janeiro, centring in itself that of all southern Brazil. The cultivation of sugar, coffee, tobacco, cotton, and other tropical products, is rapidly extending; but the greater part of the flour made use of is brought from the United States and the Cape of Good Hope. The trade is chiefly in the hands of the British. The arsenal, the dockyard, and marine establishments are on a small island within the harbour.

985

Palace of San Christovao.

St. Catharine is a long narrow province, which is chiefly remarkable for the island of the same name. It has a fine climate: its perpetual verdure and its conical rocky hills give it a beautiful aspect from the sea. The town of Nossa Senhora or St. Catherine has 5000 or 6000 inhabitants, many of whom have chosen it merely as an agreeable residence. The coast is as yet thinly peopled, though it contains several excellent harbours, as Laguna, Guaropas, and particularly San Francisco, on a river of the same name, which will increase in importance when a road is opened over the mountains into the fine plain of Orotava.

Rio Grande do Sul, the most southern province, comprises a long extent of level and alluvial coast, in which the large lakes of Patos and Mirim run parallel with the sea. The plains are covered with vast herds of cattle, which afford hides and charque, or beef dried in a peculiar manner, making a copious object of export. Some of the fazendas, or farms, comprise no less than 600,000 acres. The chief town is Portalegre, with 12,000 inhabitants, to which the opportunities of its trade have attracted even English settlers. Being situated at the head of the lake, its maritime intercourse is carried on by the port of St. Pedro or Rio Grande, which is also flourishing.

The province of Espiritu Santo and the comarca of Porto Seguro extend for about 400 miles along the coast northward from Rio; but though the latter was the point first discovered, and though they possess ample natural advantages, they have remained always in a comparatively rude and unimproved state. The coast ridge of Brazil is here formed, according to the observation of Prince Maximilian, of a broad tract of high forests, extending from Rio de Janeiro to Bahia, which has not yet been occupied by Portuguese settlers. Only a few roads have been opened, with considerable labour, along the rivers which traverse them. A few settlements have been formed along the coast, which supply with timber and manioc flour the large cities of Rio and Bahia. These are so closely pressed by the Puries, Botocudos, and other tribes of Indians, that it is dangerous for settlers to penetrate into the interior, unless well armed and in large parties. These tracts, susceptible of the highest cultivation, are covered at present with noble virgin forests, in which the cedar, the Brazil-wood, the Peruvian balsam-tree, and other aromatic and valuable species, abound. The Rio Doce is the only river of a long course; and it can be ascended in canoes propelled by poles. It is in most places bordered by forests so thick and impenetrable, as seldom to leave ground on which a house could stand: they echo with the roar of the tiger, the ounce, and the wild boar, and of men still more savage and dangerous. Among numberless other birds are seen the magnificent macaws, screaming aloud and soaring above the tops of the highest trees. Of the sea-ports, the most important is Victoria, to which may be added those bearing the names of the provinces, Espiritu Santo, and Porto Seguro; as also Benavento and St. Mattheus. These towns consist generally of houses one story high, and the streets are straggling, unpaved, and covered with grass. In Porto Seguro, though so near the sea, they have no other food than salted fish, which renders the scurvy very prevalent.

The fine province of Bahia, or St. Salvador, to which Porto Seguro belongs, follows north from the two rude regions already described. It is the most flourishing and industrious part of all Brazil. Besides being originally the metropolitan province, it was long occupied by the Dutch, who introduced their own commercial and improving habits. The territory called the Reconcale, containing a sweep of from twelve to forty miles in breadth, is in nigh cultivation, and contains many flourishing interior towns. Sugar, tobacco, and cotton are largely cultivated and exported.

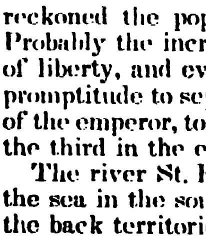
The city of Bahia, or St. Salvador, is situated within Cape St. Antonio, the eastern boundary of the noble bay of All Saints, which strikingly resembles that of Rio Janeiro. It is similarly studded with many islands, and traversed by numberless sails, almost all the provisions and vegetables being brought by water. The shores, though not mountainous, are high and richly wooded, and the town has a magnificent appearance from the water. With these attractions the interior does not correspond, at least that of the lower town, where the houses are high, the streets confined and narrow, wretchedly paved, never cleaned, and therefore disgustingly dirty. The upper town, however, placed upon the side of a hill which rises abruptly behind, though not well built, has a number of handsome private houses and public buildings. The sites and prospects are beautiful in the extreme. Every step brings to view some magnificent scene; the woods, the steep banks and gently sloping lawns, generally opening to the sea or the lake behind the town, have a peculiar freshness and amenity. The cathedral and several other churches are handsome and richly ornamented; but the finest of them, the Ex-Jesuits' church, built entirely of marble imported from Europe, has been converted into barracks. Society is not considered, by Mrs. Graham, to be so polished as at Rio; the dress and appearance of the ladies in the morning are extremely slovenly, though in the evening they appear fully attired in the French style. Gaming, the resource of vacant minds, is eagerly followed by both sexes. Intellectual pursuits seem little regarded; and though there is a large library, with some valuable manuscripts respecting the interior of America, it is allowed to lie in a neglected state. The police is bad, the dagger being generally worn, and too often used: the deaths by assassination are estimated at 200 in the year; yet St. Salvador is esteemed the gayest city in Brazil. In 1832, 121 British ships, of the burden of 27,119 tons, cleared out from Bahia. Its population amounts to 120,000 souls.

Of the other towns of Bahia, Cachoeira, the principal of those in the Reconcale, is handsome and well built, and contains nearly 16,000 inhabitants. Jacobina, more in the interior, was formerly enriched by mines, which are now given up. Ilheos, or San George, a prettily situated port, was once very considerable, but it sunk with the banishment of the Jesuits, and is now of little importance.

Pernambuco is the next province to Bahia, with the intervention of the small and unimportant ones of Seregipe and Alagoas. Pernambuco ranks decidedly as the third province in the empire, being comparatively very industrious, and having experienced a rapid improvement from the extension of the growth and export of cotton. The harbour is one of the most singular in the world. It is formed by a *recife* or reef of rocks, which run parallel with the shore, and on the exterior side of which a heavy sea is perpetually breaking. To the interior channel, however, this reef serves as a complete breakwater, and vessels which have once turned its point hear the surf dashing without, and see the spray, while they themselves are sailing on calmly and smoothly. What is called the town of Pernambuco is a compound of four towns: Olinda, seated above on a range of rocky hills, and the most ancient, but now much decayed; Recife, built on a sand-bank level with the water, and deriving its name from the reef opposite to it already mentioned,—the seat of trade, highly flourishing, and rapidly increasing; St. Antonio, or the middle town, composed of large and broad streets, and containing the governor's house, and two principal churches; lastly, Boa Vista, an extensive agreeable suburb, where the principal merchants have commodious gardens. Pernambuco has flourished extremely and increased rapidly, chiefly in consequence of the augmented culture of cotton, and the ample market for it in Europe. The cotton of Pernambuco is said to be the best in the north of Brazil. In 1809, Mr. Koster reckoned the population at 29,000; while, in 1821, Mrs. Graham's estimate was 70,000. Probably the increase could not be so very great, and there must be some error. The spirit of liberty, and even of republicanism, is very strong at Pernambuco. It showed itself first in promptitude to separate from the mother country, and next in reluctance to submit to the sway of the emperor, to which the inhabitants were at last reduced only by force of arms. This city, the third in the empire, carries on an extensive commerce in cotton, hides, sugar, and wood.

The river St. Francisco, much the largest of any which belongs wholly to Brazil, enters the sea in the southern border of this province, after a course of nearly 900 miles through the back territories behind the coast chain. The navigation is much injured, however, first by a succession of falls, and then by shallows at the mouth of the river, which render it scarcely passable even for boats. Till of late, therefore, its banks were occupied only by a few scattered fishermen and banditti. Now towns and villages are rising, and Penedo, the port, about eighty miles up, is becoming a thriving place.

986



Sertanejo.

The interior country behind Pernambuco consists of plains reaching to a vast extent, though traversed in part by the great middle chain of mountains. They are called the *Sertam*, a term contracted from Desertam, which, however, they do not merit in its most rigorous sense, but bear more analogy to the Llanos of the Orinoco, or the Pampas of La Plata, being covered with luxuriant grass, on which vast herds of cattle are fed. The Sertanejos (*fig*. 986.), as they are called, occupy *fazendas*, or cattle farms, of such vast extent, that few know their bounds, though they attempt to calculate them by the hundreds of heads of cattle pastured upon them. Their leagues, as in all other thinly inhabited tracts, are of immeasurable and deceiving length, sometimes four miles. Their dress consists of jacket, hat, and long pantaloons or leggings, all of brown untanned leather, a tanned goatskin over the breast, and a pair of coarse cotton drawers or trousers. They live in mud cottages thatched with leaves, and if they possess a table, consider it useless at meals, when the whole party squat round on a mat, with the bowls, dishes, or gourds in the centre. The wife seldom appears, and would be suspected of holding undue sway in the household, were she to make any attempt to discourse. They eat meat three times a day, with milk and a little manioc flour, or French beans. The children are often suckled by she-goats, which are thence called *comadres*, or godmothers. All their religious ministrations are derived from itinerant priests, who carry about an altar, and all the apparatus for mass, on so small a scale as to be thrust into a pack-saddle; from which they are drawn whenever a sufficient number is found to pay for the ceremony. This, with implicit faith in charms and relics, forms the whole of their religion, to which they are yet so strongly attached as with difficulty to deem it credible that Mr. Koster, whom they understood to be a heretic, should be of the same shape with themselves. They are, on the whole, after all, rather a good sort of people; hospitable, liberal, and open-hearted. Their distance from the seat of justice renders them too prone to take the law into their own hands, and to wash out any deep offence with the blood of the offender. Hence arise deadly and lasting feuds. The traffic is conducted by travelling pedlars, who give them, in exchange for their live stock, hides and cheese, various trinkets, articles of luxury, and English cottons, which are now superseding the coarse fabrics of the country. The Sertam keeps up its intercourse with Pernambuco by Goiana, a considerable and increasing town, forty miles in the interior, on a navigable river of the same name.

The other provinces of the northern coast, Paraiba, Rio Grande do Norte, Seara, Piauhy, and Maranham, extend chiefly from east to west towards the mouth of the Amazon. They, in general, present an aspect resembling Pernambuco; the coast containing many fertile and improvable districts, but the interior occupied extensively by the great Sertam, already described, which reaches as far as Bahia. They are chiefly employed in the culture of cotton, and rest their prosperity upon the increasing demand for that material. Maranham, in particular, an alluvial isle, formed by the branches of great rivers, exports, on an average, 70,000 large bales, of 180 lbs. each, besides a considerable quantity of rice and hides, and has attained a population variously estimated at from 12,000 to as high as 30,000. The other capitals are small. Paraiba, noted for the abundance of Brazil wood, was formerly considered of more importance than now; however, it has in fact continued to increase, though eclipsed by the superior importance of Pernambuco. Rio Grande is covered to a great extent with hills of fine and white sand, and is fertile in sugar, yet thinly inhabited; and Natal, its capital, is little better than a village. Seara has a pretty brisk trade on a small scale; but, according to Mr. Koster, the difficulty of land carriage, the want of a good harbour, and the dreadful droughts, prevent any sanguine hopes of its rise to opulence. Piauhy is almost entirely an inland province, and its little interior capital, Oeyras, is scarcely at all known. The isle of Majo dos Soanes, situated at the mouth of the Amazons, is very fertile; but the heats would be insupportable were they not tempered by the sea-breezes. A great part of its surface is covered with woods, tenanted by wandering Indians.

The interior provinces consist, in the first instance, of the three in the south, San Paulo, Paraná, and Uruguay; which, with the exception of the chain separating them from the coast, form a vast lowland, traversed by noble and navigable rivers; but as these do not direct their course towards the sea, but all towards the central channel of the Plata, they are as yet of little benefit to commerce.

San Paulo was at first an Indian settlement, formed by a Jesuit missionary in 1550; but, being reinforced by numerous refugees and adventurers, a mixed race was formed, of a lawless and daring character, who make a great figure in the early history of Brazil. These Paulistas, as they were called, set the Portuguese government almost at defiance, and made themselves formidable to the neighbouring provinces. They are now brought down to the character of tolerably quiet subjects; but they still maintain, throughout Brazil, the reputation of hardy frankness, undaunted courage, and a romantic love of adventures and dangers. Their features are strongly marked and expressive, their eyes full of fire, and all their motions lively and vigorous. They are the strongest, healthiest, and most active inhabitants of Brazil; and their adventurous spirit leads them to migrate through all its provinces. A good deal of maize is cultivated, sufficient for private consumption; but the chief wealth of the inhabitants consists in the vast herds of horses and cattle with which the plains are covered. The former are of an active and valuable breed; and the inhabitants display a surprising strength and activity in pursuing and taming them. The Paulistas are frank and jovial; but the inferences hence made to their disadvantage are said to be unfair. The ancient province of San Vicente is enclosed in that of San Paulo.

Uruguay is formed of seven missions on the eastern bank of the river of that name, ceded by Spain in 1750. Its chief importance consists in the production of the tea or herb of

Paraguay, which is considered, over a great part of South America, as much a necessary of life as the tea of China is with the English. That of Uruguay is indeed inferior to what is produced in the territory west of the Paraná; but as Dr. Francia, the present ruler of that region, has capriciously prohibited its exportation, the Brazilians supply all the neighbouring countries with this valuable commodity. The whole country, as far as the La Plata, has indeed been lately erected into a new province, named Paraná; but part of this is, in fact, the undisputed domain of Francia, while his claim to the rest has been successfully resisted by Buenos Ayres.

Minas Geraes, the most central province in Brazil, is distinguished as containing the principal mines of gold and diamonds. In passing into it from San Paulo, a decided change is observable in the aspect of nature. The country swells into hills, and gradually assumes the features of a romantic and alpine region. The golden mountains, which traverse the whole extent of Minas Geraes, do not rise above 3000 or 4000 feet; they exhibit not the rugged clefts or gigantic rocky summits of the Alps or of the Cordilleras; they consist of long series of detached ranges, with agreeable campos on their summit, and separated by sloping and pastoral, but not very deep, valleys. The country is often extremely fertile, and might yield the most valuable productions, were not the attention of the inhabitants drawn off by the glittering but often useless treasures found in the bowels of the earth. S. Joao del Rey is a neat little town of whitewashed, red-tiled houses, surrounded by a singular scene of round hills and broken rocks, with tracts entirely sterile, and others covered with the most luxuriant verdure. Its situation is so agreeable and central, that an intention was once formed of making it the capital of Brazil. The mine from which its distinction is derived is merely a deep pit, into which the streams from the neighbouring hills are directed, and in which any one is allowed to search. Its produce, and the hopes formed from it, have much diminished, and S. Joao supports its somewhat languid prosperity chiefly by an inland trade, keeping four caravans, of fifty mules each, constantly going backwards and forwards to Rio Janeiro. Villa Rica may be regarded as the El Dorado of Brazil, from its highly productive gold mines, already described. The place is large, its inhabitants being variously reported from 8500 to 20,000. There are 400 or 500 good houses; and the government palace, the town-house, the theatre, and the prison, have rather an unusual air of magnificence. Water is supplied from fourteen fine public fountains. The produce of the mines has declined; but the internal trade is very brisk. Tejuco, the capital of the diamond district of Serro do Frio, is situated in a most dreary tract, where all the necessaries of life must be brought from a considerable distance. It is well built, on very rugged ground, and contains 6000 free inhabitants, and as many slaves employed in searching for diamonds. Villa do Principe, in a fine country, on the borders of the diamond district, enjoys a more solid prosperity, and contains about 5000 people.

There are still several exterior provinces of Brazil, which have been occupied by the Portuguese only at a few detached points, while by far the greater part remains in full possession of the unsubdued Indians. These provinces are, Goyaz, Matto Grosso, and Pará. To them may be added the still more exterior regions beyond the Amazons and the Madêra, Solimoens and Guiana, the domination over which can be considered by the Portuguese as only future and prospective.

Goyaz is a province, or rather kingdom, of vast extent, watered by the mighty streams of the Tocantines and the Araguay, which unite in their progress towards the Amazons. The aspect is described as generally uneven, though seldom mountainous, comprising many sandy sterile plains, wooded only upon the banks of the rivers. Gold was the lure which attracted settlers into this desolate and unfrequented region; and in the country round Villa Boa, the capital, the quantity produced was for some time considerable, though now it is much diminished. Villa Boa contains also a governor, a bishop, and about 6000 inhabitants.

Matto Grosso, west of Goyaz, is a still vaster region, extending far into the interior, and bounded only by the Madera and the Upper La Plata. It consists for the most part of immense plains, similar to the Llanos or Pampas; for the lofty chain which our maps have hitherto interposed between the Amazons and the Plata, has, according to Humboldt, been ascertained to be a mere dividing ridge, rendered sensible only by the separation of the waters. The principal settlement is at Cuyaba, in the south-western district, where it can hold communication with the more civilised regions. Here, too, gold was the first attraction, and even when the quantities which it produced began to diminish, the country was found so fine and fertile, that its cultivation amply indemnified the Cuyaban settlers. They amounted, in 1809, according to Mr. Mawe's estimate, to 30,000. The official capital, however, is Villa Bella, on the Guapure, one of the principal heads of the Madera; a neat small city, perhaps the most advanced point which the Portuguese hold in America. The most powerful of the native tribes in this region are the Guaycurus, a numerous people, who have adopted and carefully reared all the domestic animals of Europe, and have thereby greatly added to their power and numbers, without any deduction from their ferocity. They never cultivate the ground, but subsist entirely on their herds, and the produce of the chase; and, like the Tartars, when pasturage and game are exhausted, they migrate in large bodies from one spot to another. The mothers, it is said, still retain the savage practice of destroying the embryo, till they have attained the age of thirty. The Guaycurus are the terror of all the neighbouring Indians; when successful in war, they massacre all the adults, and carry off the children into slavery. Perhaps in the struggle which must finally ensue between them and the Portuguese, the triumph of the latter may not prove quite so certain as some have anticipated.

Pará forms the northern part of this vast interior, filling the interval between the two last-mentioned provinces and the stream of the Amazons. The greater part is, if possible, still less known or occupied than even Matto Grosso; but there is a district near the mouth of the great river, which is not only very fertile, but cultivated to a considerable extent. It is well fitted for sugar, and, since the cotton trade rose to such importance, has particularly prospered, yielding a description little inferior to that of Bahia. The population of the capital, Pará or Belém, has been stated at 20,000; but probably this includes the immediately surrounding district. The water communications, however, of this city with the interior are so immense, that it must continue to advance with the progressive settlement of the provinces of Goyaz and Matto Grosso.

The province of Solimoens is still more remote from the sphere of European and civilised existence. It extends beyond the Madera, south of the Upper Amazons, which here receives four great rivers; destined, perhaps, to be the scene of a crowded navigation, but whose banks at present are only traversed by nameless and thinly scattered tribes of savage Indians. Its only tincture of civilisation has been derived from Franciscan missions, of which nine have been established along the banks of the great rivers.

The region of Portuguese Guiana is still more vast, extending 900 miles by 600, and nearly on an equality as to settlement and civilisation. It includes nearly the whole course of the Rio Negro, the rival of the Orinoco, and one of the greatest tributaries of the Amazons. The Rio Negro derives its name from the black colour which its waters present to the eye; notwithstanding which, taken out of the river, they appear perfectly clear and pellucid. Its navigation is good, and by the Cassiquiare it has a communication with the Orinoco, which may hereafter prove of the greatest importance. Three leagues above the mouth of the river, the Portuguese have established the town of Rio Negro, where they not only keep their stores and a small garrison, but have endeavoured to form manufactures of cotton and pottery, which must be considered here as very forced undertakings. They have also several small settlements and missions higher up the river, and on the Rio Branco, its chief tributary. Still farther up, the Amazons receives the Yapura, another immense tributary, coming across from the Cordillera. Its banks are covered with noble woods, indicating a fertile soil; but the navigation is rendered difficult by the rapidity of the current; and the shores have been found unhealthy for European constitutions. The channel of the Lower Amazon, for about 1600 miles, forms a sort of inland sea, in which the opposite banks are often not visible, and the whole of which is believed to be navigable for the largest vessels. This course is through an immense and magnificent plain, not encroached on even by a hillock from the bordering Andes, but sloping gradually and almost insensibly down to the Atlantic. But this region, which will one day be the most flourishing on the face of the earth, is at present occupied only by tribes of wandering Indians, and a few settlements, which the Portuguese have formed by banishing their felons into it. These emigrants, at a distance from all law and restraint, have availed themselves of their superior arms and skill cruelly to oppress the natives, against whom they carry on a regular system of slave-hunting. Charges of cannibalism have been made against these Indians to all travellers, including Mr. Mawe, who descended the river; but they have never been confirmed by credible eye-witnesses, and are alleged by D'Acunha to have been invented by the Portuguese, in order to justify their own outrageous conduct. Equally ancient and continued have been the reports of tribes of warlike females inhabiting the banks; and, though destitute of any regular confirmation, and evidently much exaggerated, they may probably have some foundation in truth.

CHAPTER V.

COLOMBIA, OR NEW GRENADA, VENEZUELA, AND EQUATOR.

Colombia is the name given to the extensive territory of an independent state, which took the lead among the newly-formed republics in what was formerly Spanish South America. Recent changes have subdivided it into three portions, which have assumed the appellations of New Grenada, Venezuela, and the Equator; but it is still convenient to give its physical features under the general appellation of Colombia.

Sect. I.—*General Outline and Aspect.*

Colombia, in its general outline, occupies nearly the whole north and north-western part of South America, and comprehends the two governments included by the Spaniards under the names of the viceroyalty of New Grenada, comprising Quito, and the captaincy-general of the Caraccas, or Venezuela, including Spanish Guiana. It is bounded on the north by the great gulf of the Atlantic, which is enclosed between its shore and the long chain of the West India islands, commonly called the Caribbean Sea. On this side also a narrow land boundary connects it with Guatemala, but its limits on that side are unsettled. On the west it stretches along the boundless expanse of Pacific from the Golfo Dolce on the north to the Rio Tumbez on the south. Southward it borders on Peru, separated from it by a line of river and mountain boundary extending first southeasterly from the Tumbez to about 7° S. lat., and then northeasterly to the Javary. The limits along the Brazilian possessions have been described in the account of Brazil. The Essequibo and the Pumaron separate it from British Guiana. No actual settlements have, however, been formed on the mighty Amazons, which can only be approached by rugged and entangled tracks, such as the most daring traveller alone ventures to tread; and on the east the extreme boundary of solid and practical settlement appears formed by the Orinoco in its course from west to east. All the rest, under the name of Guiana, is merely an indefinite expanse of river and forest, of which the native Caribs remain in almost undisturbed possession.

The surface of Colombia, its mountains and plains, are of the most varied character, and on the most majestic scale, presenting forms and phenomena the most grand and awful that are to be found on the globe. The summits of the Andes have ceased, indeed, to rank as the very loftiest on earth. The Himalayah, the mountain boundary of Hindostan, is not only higher, but presents, perhaps, a grander continuity of unbroken and gigantic steeps. But, ascending from the low country by a series of tabular plains and broad valleys, it presents at no single point any very astonishing elevation. It has nothing to resemble those solitary gigantic cones, which, in the Colombian cordillera, shoot up towards the sky, and even under the burning influence of the equator remain buried to a great depth in perpetual snow. Chimborazo (*fig.* 987.), the giant of the west, stands yet unscaled by mortal foot. Humboldt and his companions made extraordinary exertions to reach its summit, and arrived at about 2000 feet from that point, then believed to be the greatest elevation ever attained by man. Here they planted their instruments on a narrow ledge of porphyritic rock, which projected from the vast field of unfathomed snow. A broad impassable chasm prevented their farther advance; besides which, they felt in the extreme all the usual inconveniences of such high situations. They were enveloped in thick fogs, and in an atmosphere of the most piercing cold; they breathed with difficulty, and blood burst from the eyes and lips. The form of the mountain, which is that of a truncated cone, appears everywhere sublime, but peculiarly so from the coast of the Pacific at nearly 200 miles distance, whence it resembles an enormous semitransparent dome defined by the deep azure of the sky: dim, yet too decided in outline to be mistaken for a cloud. The height was ascertained by Humboldt to be 21,440 feet. Antisana, though only 19,000 feet, is remarkable for having a village on its side at the height of 13,500 feet, once believed the highest inhabited spot on the globe. The French academicians, when they established themselves on the top of Pichincha, at the height of 15,000 feet, experienced all the rigours of an arctic winter, which sometimes threw them, after the exertion of mounting, into a state of vertigo or insensibility. They were involved in almost constant fogs, and when these cleared, they beheld the clouds spreading a wide and smooth surface beneath them like that of the ocean, and heard the dreadful roarings of the tempest in the valley of Quito.

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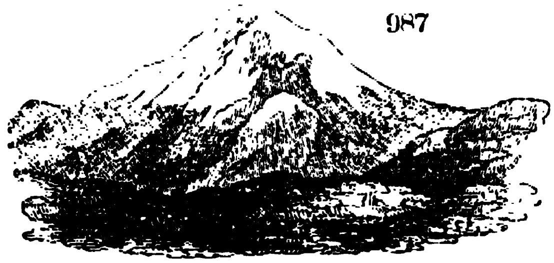

Chimborazo.

The most tremendous volcanoes in the world are those which burst from this mountain range. Cotopaxi (*fig.* 988.) is the most formidable in the Andes, and, indeed, on the globe. This mountain is 18,898 feet high, consequently more elevated than Vesuvius would be if placed on the top of Teneriffe. It is the most beautiful of all these colossal summits, presenting the form of a regular and smooth cone, wrapped in a covering of the purest white, which shines in the rays of the sun with dazzling splendour, and detaches itself in the most picturesque manner from the azure vault of heaven. It is seldom that this volcano is wholly silent, and that at night smoke and flame are not seen rising from its summit, like a beacon flame in the regions above. In the course of the last century, it had five great eruptions,

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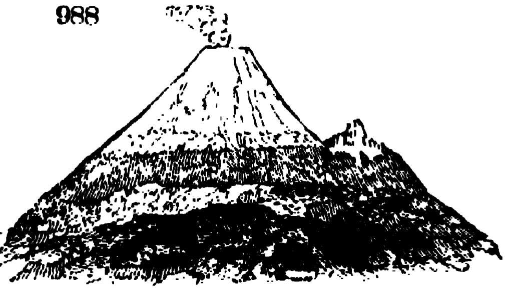
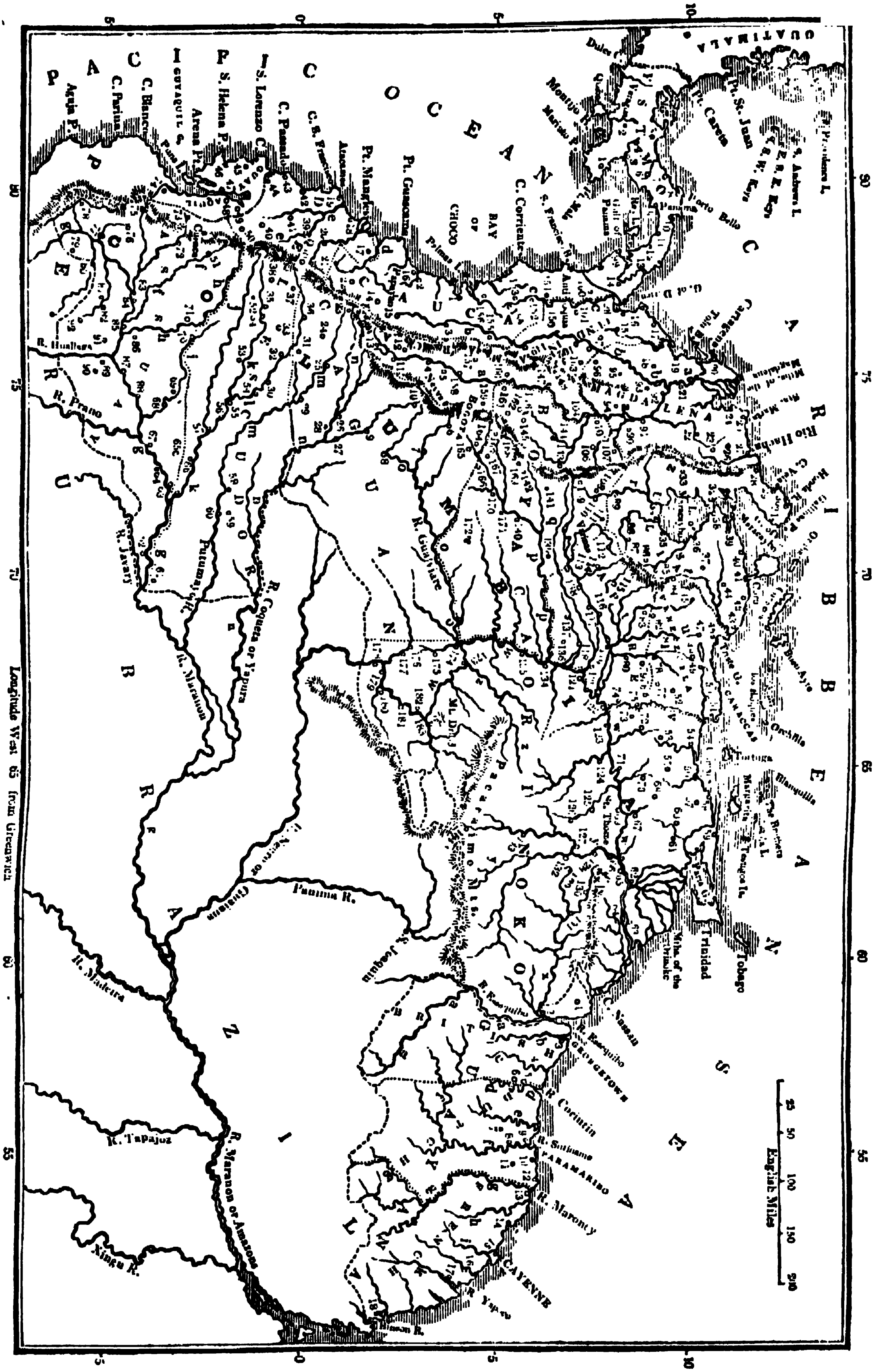


Cotopaxi.


PACIFIC OCEAN
CARIBBEAN SEA
GUATIMALA
Pt. St. Juan
Porto Bello
Gulf of Panama
BAY OF CHOCO
C. Corrientes
Pt. Guascama
Pt. Manglares
C. Passado
C. S. Francisco
S. Lorenzo C.
S. Helena P.
Arena Pt.
C. Blanco
C. Parina
Aguja P.
GUAYAQUIL
Carthagena
Rio Hacha
Mouths of the Magdalena
MAGDALENA
BOGOTA
R. Guaviare
CARACCAS
Orchilla
Tortuga
Blanquilla
Margarita
Trinidad
Tobago
Mths. of the Orinoko
ORINOKO
R. Essequibo
GEORGETOWN
R. Corentin
R. Surinam
PARAMARIBO
R. Maroni
CAYENNE
R. Huallaga
R. Pastazo
R. Javary
Putumayo R.
R. Coqueta or Yapura
R. Maranon
R. Negro
Parima R.
R. Madeira
R. Tapajoz
Xingu R.
R. Maranon or Amazons
PERU
BRAZIL
GUIANA
Longitude West 65 from Greenwich
English Miles
25 50 100 150 200
80 75 70 65 60 55
10 5 0 5

and one in 1803. As the inflamed matter ascends, the perpetual snows, which have covered the summit to an almost unfathomable depth, are melted, and rush down in destructive torrents, when its naked and embrowned head is displayed to the astonished inhabitants of the plain. Then, amid appalling sounds, louder than the loudest roar of artillery, the burning entrails of the earth rush up into the sky, rising often half a mile above the mountain head before they stream down upon the surrounding districts; mountain above mountain is then raised of pumice and lava. It has been averred that Cotopaxi was heard at the distance of 600 miles. Humboldt certainly states, that on the coast of the Pacific, at 140 miles distance, it sounded like thunder, or like the discharge of a continuous battery of cannon. From this and the other South American craters are ejected not only the usual volcanic substances, but torrents of boiling water and mud, often containing great quantities of dead fishes. Sometimes, after successive eruptions, the undermined walls of the mountain fall in, and become a mass of tremendous ruin. Such was the fate of El Attaï, which once reared its head above Chimborazo, and of another very lofty volcano, which, in 1698, fell with a similar crash.

The general range of the Andes, as it passes through Colombia, is divided in the north into three parallel chains, of which the eastern has between it and the middle chain the plain of Santa Fé de Bogotá, and some others, which constitute the most valuable part of New Grenada. Farther south, these chains unite into two, of which the most elevated, comprising all the highest volcanic summits, is on the western side, facing the expanse of the Pacific. Between it and the parallel chain is interposed the table plain of Quito, about twenty miles in breadth, and of the most surpassing richness and beauty. To the east also the Andes throw out a chain, called by Humboldt the shore chain of Venezuela, which runs parallel to the sea along the coast of Caraccas, as far as Cumaná, leaving along the shore a plain rich in the most valuable tropical productions. The surface of all these mountain districts presents a very different aspect from that of the huge broad mass of the table-land of Mexico. Their elevated steep ridges are separated by deep narrow burning valleys, which descend almost to the level of the sea, and the only temperate lands consist of small plains

References to the Map of Colombia and Guiana.

NORTH PART.
1. Mensabe
2. Veragua
3. Nata
4. S. Francis
5. La Concepcion
6. Pononome
7. Chagres
8. Porto Bello
9. Panama
10. Mandingo Fort
11. Centinela
12. Chuman
13. New Edinburgh
14. Pargana
15. Guaragua
16. Caiman
17. Tortuga
18. Tecazoluma
19. Tolu
20. Carthagena
21. Teneriffe
22. Los Reyes
23. Pulgar
24. Sienga
25 Santa Martha
26. Rincon
27. Rio Hacha
28. Calabozo
29. Tuncuraca
30. Honda
31. S. Anna
32. Maracaybo
33. Perija
34. S. Maria
35. Gibraltar
36. Porto Carora
37. Carora
38. Los Puertos
39. Casigua
40. Sacarula
41. Coro
42. Bara
43. Tocuyo
44. Santa Lucia
45. Barquisimeto
46. Puerto Cabello
47. Valencia
48. Cura
49. Victoria
50. Caraccas
51. Yares
52. Chaguaramas
53. Del Negro
54. Puruey
55. Aragua
56. New Barcelona
57. Cumanacoa
58. Cumana
59. Carupano
60. Amana
61. Maturin
62. Fort S. Rafael
63. Zacupana
64. Imataca
65. Old Guiana
66. Carony
67. S. Vincent
68. S. Joaquim
69. S. Thome, or Angostura
70. Concepcion del Pao
71. S. Cruz
72. S. Fernando
73. Yaguana
74. S. Salvador
75. S. Clara
76. Belen
77. Paraguay
78. Calaboza
79. S. Catalina
80. Banegas
81. S. Juan del Pao
82. S. Rafael
83. Araure
84. Tocayo
85. Truxillo
86. Belijes
87. Merida
88. Chigoara
89. S. Faustino
90. Porto de Ocana
91. Tamalameque
92. Mompox
93. Figucio
94. Limitio
95. Saragossa
96. Remedios
97. Espiritu Santo
98. S. Francisco
99. Garachine
100. Vigia de S. Josef
101. Muri
102. S. Andre
103. Cancan
104. S. Bartolome
105. Yaridi
106. Giron
107. Ocana
108. Rosario de Cucuta
109. Pamplona
110. S. Antonio
111. La Grita
112. Pedraza
113. Quintero
114. Varinas
115. Guanare
116. S. Antonio
117. Nurias
118. S. Francisco
119. S. Fernando
120. S. Rafael
121. La Concepcion
122. Cayacara
123. Alta Gracia
124. S. Francesco
125. Carolina
126. Tapia
127. Barcelonetta
128. Guri
129. Guayor
130. Taruam
131. Curi
132. S. Pedro
133. S. Jose
134. S. Borja
135. Atures
136. Mirabel
137. Corocoro
138. S. Vincent
139. Arauca
140. S. Rosalia
141. Lapa
142. Chire
143. Capitanejo
144. Socorro
145. Tunja
146. Muzo
147. Nare
148. Rio Negro
149 Arma
150. Antioquia
151. Bete Betoi
152. Citera
153. Pato
154. Tambo Citera
155. Cartago
156. Nuanamo
157. Ibague
158. Purification
159. Bogota
160. Mariquita
161. Honda
162. Tocas
163. Chimgaza
164. Xiramena
165. Marayal
166. S. Miguel
167. S. Barbara
168. Morocoto
169. Pore
170. Buenavista
171. Guacasia
172. Huts of the Sigdaqueres
173. S. Barbara
174. S. Fernando
175. Balthasar
176. Maroa
177. Davipe
178. S. Carlos de Rio Negro
179. Solano
180. Mandavaca
181. Vasiva
182. Vasiva Nueva
183 Esmeraldo
184. Gurior.

SOUTH PART.
1. Buenaventura
2. Zaragoza
3. Buga
4. Neyva
5. Mercadillo
6. S. Juan de los Llanos
7. El Rayo
8. Aramo
9. Caguancito
10. Caguan
11. Gigante
12. La Plata
13. Timana
14. Almaguer
15. Popayan
16. Trapiche
17. Barbacoas
18. Tola
19. Atacames
20. Mara
21. Ipicales
22. Pasto
23. Santiago
24. Socombios
25. Mamos
26. Sotano
27. Aumea
28. S. Maria
29. La Concepcion
30. S. Luis de Gonzaga
31. Mira
32. S. Teresa
33. Ytaya
34. S. Rosa de Oas (ruins)
35. Napotoa
36. Aguarico
37. Mote
38. Archidona
39. Quito
40. Hambato
41. Machachi
42. Palmar
43. Canoa
44. Porto Viego
45. Xipijaba
46. S. Helena
47. Guayaquil
48. Iaquache
49. Nausa
50. Riobamba
51. Macas
52. Oas
53. S. Juan Nepomuce
54. Stanislao
55. S. Miguel
56. La Soledad
57. S. Xavier
58. Miranhas
59 S. Romano
60. Asuncion
61. Loreto
62. Camuxeiro
63. S. Fernando
64 Iquitos
65. S. Barbara
66. Oravia
67. S. Joaquim de Omaguas
68. Yameos
69. Urarinas
70. Chambira
71. Purches
72. Logrono (ruins)
73. Cuenca
74. Tumbez
75. Loxa
76. Valladolid
77. Jaen
78. S. Felipe
79. Quispi
80. Luyu
81. Yapa
82. Chirla
83. Santiago
84. S. Borja
85. La Baranca
86. Santander
87. Urarinas
88. S. Luis
89. La Laguna
90. Chimicuros
91. Xeberos
92. Alleros.

Rivers.
a Magdalona
b Cauca
c Atrato
d Patia
e Esmeraldas
f Maronna
g Maranon, or Amazons
h Pastaca
i Tigre, or Piguena
j Cururay
k Napo
l Ahuarica
m Putumayo, or Ica
n Caqueta, or Yapura
o Guaviare
p Meta
q Arauca
r Zuba
s Motatan
t Tocayo
u S. Juan
v Manapure
w Orinoco
x Cuyuni
y Carony
z Ventuari.

GUIANA.
1. New Mittelburg
2. Essequibo
3 Georgetown
4. Soburg del Oeste
5. Guarda
6. Mora
7. Guarda
8. Roma
9. Paramaribo
10. Capilla
11. Orania
12. Paragoles
13. Guarda Franceza
14. Tracuba
15. Cayenne
16. Mission Approque
17. S. Luis, or Oyapock
18. Macary.

Rivers.
a Essequibo
b Demerara
c Berbice
d Corentin
e Cupanama
f Surinam
g Marony
h Mana
i Gauyca
j Approbuque
k Yapoco.

which hang as it were on their sides. There is thus a more rapid, and as it were precipitous descent from an arctic to a temperate, and then to an equatorial climate. A traveller may quit in the morning the frozen tracts near the mountain summits, and, passing through the pine forests, may successively traverse fields of oats, barley, and wheat, and may walk in the evening amid plantations of sugar-cane and banana. Yet the lower grounds along the rivers are close, swampy, and filled with myriads of tormenting insects; and it is not until he has ascended to almost a mountain height, and feels the breezes blowing from the regions of perpetual snow, that he finds an air which he can breathe, or even ground on which he can tread with safety.

The Llanos form another extensive portion of the Colombian territory, commencing where the mountain ranges terminate, and reaching east and south to the Orinoco. They consist of immense flats, covered with magnificent forests and vast savannahs, in which the grass often grows above the human height, covering from view both man and horse. A great extent is inundated by the Orinoco and its large tributaries. The soil is fertile in the extreme; but the unhealthiness of the climate deters settlers who are not urged by extreme necessity.

Two other groups, not belonging to the Andes, have been traced by Humboldt. These are, the Sierra de Santa Martha, 18,000 feet high, which mariners, seeing on that coast covered with perpetual snow, never hesitated to rank as part of the Cordillera; but it is now ascertained to be a single mighty group, entirely surrounded by plain. The other is the Sierra Parimé, to the east and south of the Orinoco, a widely extended heap of mountains, but not very lofty. Both by its elevation and its position on the continent, it assimilates rather to the system of the Alleghany and the mountains of Brazil than to that of the Cordilleras.

Among its rivers, Colombia may rank several, the greatest both of the Old and the New World. She sets one foot, as it were, on the Marañon: but that river, being scarcely accessible, and the country near it occupied only by a few scattered missions from Peru, cannot be considered in any practical sense as Colombian. The same observation may almost apply to its great tributaries, the Napo, the Ica or Putumayo, and the Japura or Caqueta, which descend to it from the Andes of Quito. The secondary but still immense stream of the Orinoco rises in the southern part of the mountains of Parimé, and, winding round them, flows first west, then north, till it takes its final course eastward to the Atlantic. It enters that ocean by a delta of about fifty channels, and after a course of 1380 miles. In an early part of that course it forms a remarkable communication, by the Cassiquiare, with the Rio Negro, and through it with the Amazons, of which the Rio Negro is the largest northern tributary. From the boundless expanse of the Llanos, the Orinoco receives several mighty rivers that have their sources in the Andes,—the Guaviare, the Meta, and the Apuré; the last of which, flowing through the plains of Venezuela, and drawing its waters from the coast chain, is alone very important in a commercial view. These shores may in future ages become the magnificent seats of empire, but at present they are overgrown with forests and thickets, peopled only by wandering Caribs, and presenting but a few scattered missions and settlements. The really useful streams are those of smaller dimensions, which, running like long canals between the mountain chains, bring down the products of those high valleys, at present the only cultivated part of Colombia. The Magdalena, the largest and most commodious of these streams, has a course of more than 500 miles between the eastern and middle chain of the Cordilleras, affording to the plain of Santa Fé a communication with the sea. The Cauca runs between the middle and western chain; and, after a course of nearly equal length, joins the Magdalena before it falls into the sea near Carthagena. The Atrato is a smaller stream, between the western chain and the Atlantic. The Magdalena is throughout navigable, though the voyage is rendered painful by the heat and the myriads of insects. The navigation of the Cauca is by no means so good. To the south, the still smaller rivers of Esmeraldas and of Guayaquil afford to the republic of the Equator an important means of communicating with the Pacific Ocean.

There are scarcely any lakes of importance. We must except, however, that of Maracaybo, which, though it communicates with the sea, yet, unless in strong winds blowing from thence, preserves its waters fresh and unmixed. There are also dispersed throughout the territory various little collections of water on the declivities of hills, and others formed by the expansions of rivers.

SECT. II.—*Natural Geography.*

SUBSECT. 1.—*Geology.*

We have not met with any description illustrative of the geognostical structure and composition of this country: but it is well known that Colombia affords considerable quantities of gold, silver, platina, and other metals,

Subsect. 2.—*Botany.*

Perhaps nothing is so well calculated to convey a faithful general representation of an American intratropical vegetation as the following sketch, by the celebrated Humboldt, in his "Tableau Physique des Régions Equinoxiales, illustrated by a plate of the physical phenomena presented by those regions from the level of the sea to the highest summit of the Andes." We shall here consider the botanical part of it alone; and let us, with that eminent philosopher, suppose ourselves transported into the region where nature has delighted in combining the most majestic forms, grouped in the most striking manner; that country of the Palms and the scitamineous plants, which stretches from the level of the ocean to a height of 513 toises; the land of the Banana (*Musa*), the Heliconia, the Alpinia, and the most odoriferous liliaceous productions. In this burning climate grow the Theophrasta, the Plumiera, Mussænda, Cæsalpinia, Cecropia peltata, the Hymenæa, the Balsam Tree of Tolu, and the Cusparia or Quinine Tree of Carony. On the barren sea-shore, beneath the shade of Cocoas, Laurus Persea, and Mimosa Inga, are found the Allionia, the Conocarpus, the Mangrove (*Rhizophora Mangle*), Convolvulus littoralis and brasiliensis, the Talinum Avicennia, Cactus Pereskia, and Sesuvium Portulacastrum.

Some of the plants of this region possess striking peculiarities and remarkable exceptions to the general laws of vegetation. The South American Palms, like those of the Old World, are unable to endure the cold of the high mountains, and disappear at an elevation of 513 toises. One single Palm, from the Andes (*Ceroxylon andicola*) (*fig.* 990.), presents the extraordinary phenomena of growing equally at a height of from 951 to 1472 toises; its trunk, coated with a waxy substance, attains to a height of 54 mètres (about 160 feet). It has been stated that a Palm grows in the ravines of the Straits of Magellan, lat. 50° S. This is the more striking, as it is impossible to confound a palm tree with any other vegetable, except it be the arborescent Ferns, whose existence there would be equally remarkable. In Europe the Palmetto and Date are not found farther north than 43° 40′. The Scitamineæ, especially the species of Heliconia, cease at a height of 410 toises. Near the summit of the Silla de Caraccas (1103 toises) grew a scitamineous plant, from nine to twelve feet high in such abundance as to render a passage through it difficult: it appeared to Humboldt to be a new and hardier kind of Heliconia. Sesuvium Portulacastrum vegetates alike on the shores of Cumana and to the east of the city of Mexico, on a plain 1200 toises high, where the soil is impregnated with carbonate and muriate of soda. Indeed, the plants of salt marshes generally seem little affected by difference of temperature.

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Ceroxylon Andicola.

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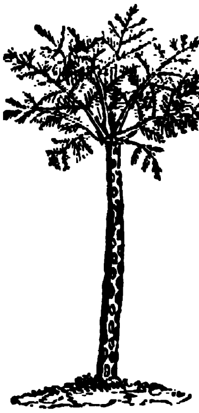

Tree Fern.

Above the region of Palms and Scitamineæ is that of the Tree Ferns (*fig.* 991.) and Cinchonas. The latter possess a much wider range than the ferns, which prefer a temperate climate, and an elevation between 200 and 800 toises, while the Quinine Trees rise to 1487 toises above the level of the sea. The hardiest species are Cinchona lancifolia and C. cordifolia, the tenderest C. oblongifolia and longiflora. The famous Quinine Tree of Loxa, which is quite different from the orange Quinine of Santa Fé, grows from 975 to 1280 toises; it differs essentially from C. glandulifera, to which it bears most analogy, and has only been hitherto seen near Loxa, and in a small district of Peru. To distinguish it from all other species, and to do away the incorrect appellation of Cinchona officinalis, it has been called C. Condaminea. Caoutchouc is the product of several plants, that possess few ana logous characters, of Ficus, a Hevea, a Lobelia, a Castilloa, and several Euphorbias. Camphor also exists in vegetables of different genera, being extracted in Asia from a Laurel, and in Peru from a didynamous shrub found by M. Haenke. The fruit of a Myrica and the trunk of a Palm equally yield wax: thus substances, possessing similar chemical properties are derived from highly dissimilar vegetables; and it is the same with the febrifuge principle of Cinchona, which resides in plants belonging to totally different genera.

The Cusparia of Carony, near Upatu, a magnificent tree, which yields the Angostura Bark, is not a Cinchona, though it be difficult even for a chemist to distinguish between the infusion of Cuspa and that of the orange Quinine from Santa Fé. Upon the sea-coast west of Popayan grows a tree possessing the qualities both of Cinchona and Wintera, but differing from either of these genera. The Cusparia of Guiana, the Cuspa of New Andalusia, and the Cascarilla of Atacamez, all vegetate at the level of the sea; and their juices contain a principle analogous to that afforded by the true Cinchonas at an elevation of 1436 toises.

In the temperate region of the Cinchonas grow some Liliaceæ, as Sisyrinchium; the large blue-flowered Melastomæ, the arborescent Passion Flowers, as tall as our European Oaks; Bocconia frutescens, Fuchsias, and most beautiful Alstrœmerias. The Macrocnemum and Lysianthus grow majestically there, and the ground is clothed with Kölreuteria, and Weissia, and Dicranum, and other evergreen mosses, while the ravines shelter Gunneras, Oxalides, Dorstenias, and a multitude of unknown Arums. Porliera hygrometrica with Hypericum baccatum and cayanense grow higher up. Beyond 1120 toises, the sensitive Mimosas disappear under the influence of the increased cold; at 1330 to 1340 toises, Acæna, Dichondra, Nierembergia, Hydrocotyle, and Alchemilla form a thick turf. This is the region of the Weinmannias and Oaks, of Spermacoce and Vallea stipularis. The Mutisia climbs over the loftiest trees. The Oaks (*Quercus granatensis*) only commence in Equatorial Regions at an elevation of 872 toises; while in Mexico they are found as low as 410 toises. These are the plants which sometimes recall the idea of spring in these regions; they lose all their foliage, and the young verdure of the new leaves mingles most agreeably with the Epidendrums that grow upon their branches. The Cheirostemon, a new genus of Malvaceæ, with a most singularly shaped flower, grows also on the Andes of Peru. For a long time a single individual only was known, near the city of Toluca in Mexico; it seems to be wild in Guatemala; and this famous Hand Plant of Toluca has probably been equally planted by some Rointztequas, whose taste for cultivation, and whose admiration of the beauties of vegetation, are attested by the ruined gardens of Iztapalapan.

Near the Equator, the larger trees are not found beyond 1385 toises; and above the level of the city of Quito they become small and comparatively of stunted growth. At 1796 toises, almost all arborescent vegetation ceases, though shrubs become more abundant: this is the region of the Berberries, the Durantas, and Barnardesias, whose presence marks the vegetation of Pasto and Quito, as that of Santa Fé is indicated by the Polymnia and Tree Thorn-apples. Castillejas, Embothrium, and Clusias are common in this region, with Calceolarias, whose golden yellow blossoms contrast agreeably with the verdure of the grass through which they sprout. Nature has assigned a zone to these plants, which commences at a northern degree of latitude. Higher up, towards the summit of the Cordillera, from 1436 to 1690 toises, is the region of Wintera and Escallonia. The cold and damp climate causes the trunks to become short and to divide into numerous branches, covered with coriaceous and glossy foliage. Some trees of the Orange Quinine and Embothrium are found thus high. The Alstonia, whose dried leaves form a wholesome tea, with a Wintera and Escallonia, form scattered groups, and at their feet grow small Lobelias, Basellas, and Swertia quadricornis. Still higher, at 1796 toises, the arborescent plants disappear; in a narrow valley on the volcano of Pichincha alone is there a group of arborescent Syngenesiæ, with stems 20 to 24 feet high. From 1026 to 2103 toises extends the range of alpine plants; Stæhelinas, Gentians, and the Espeletia fruticosa, whose downy leaves often shelter the poor Indians who are overtaken by night in these desolate spots. The open plain is adorned with Lobelia nana, Sida pichinchensis, Ranunculus Gusmanni, Ribes frigidum, Gentiana quitensis, and many similar plants. The Molinas are the under-shrubs that grow at the greatest elevation on the volcanoes of Purace and Antisana. At an elevation of 2103 toises, the alpine plants give place to the Gramineæ, of which the region extends to 2360 toises. There, Jurava, Stipa, and many new species of Agrostis, Panicum, Avena, and Dactylis cover the soil, which, at a distance, wears the appearance of a golden carpet, called by the inhabitants Pajonal. Snow falls, from time to time, on the region of the Gramineæ. At a height of 2360 toises there are no more flowering plants under the equator. From this limit to that of perpetual snow, Lichens alone clothe

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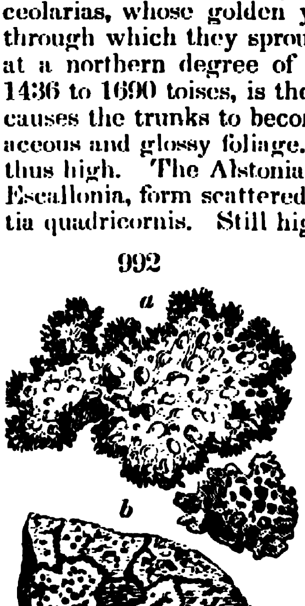

a, Umbilicaria Pustulata.
b, Verrucaria Geographica.

the rocks. Some of these indeed appear to vegetate under the snow, for at 2850 toises, near the summit of Chimborazo, the Umbilicaria pustulata (*fig.* 992. *a*) and Verrucaria geographica (*fig.* 992. *b*) are seen growing on a shelf of rock, and these were the last organised substances adhering to the soil at so great a height which Humboldt and his companions were able to detect.

Subsect. 3.—*Zoology.*

The Zoology of Colombia offers a vast and almost unexplored field to the modern naturalist. We know not how it has happened, that, while Brazil has been traversed by learned men, sent from nearly all the European nations, the other regions of South America, in regard to their zoological productions, are as little known at this period as they were when guarded by Spanish jealousy; for Humboldt, in Zoology, did little or nothing. We shall not attempt, therefore, to hide this deficiency by quotations from obsolete works; rather wishing that a confession of unavoidable ignorance may induce those who have the power and the inclination, to direct their attention to this subject. There is one bird, however, of surpassing beauty, which we can notice, as having been recently sent from Colombia and Guatemala: this is the Calurus pavoninus *Sw.*, or Peacock Trogon (*fig.* 993.), so named from the splendid green plumage of the back and the long feathers towards the tail: it is said to be very rare; living only in the deepest and most unfrequented forests; and is much sought for by the natives on account of its superb feathers.

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Peacock Trogon.

Sect. III.—*Historical Geography.*

The former condition of all the Colombian states was that of a people much less advanced in civilisation than those of Mexico and Peru. The whole of the vast plains watered by the Orinoco and its tributaries were occupied by the Caribs, a savage and warlike race, whom the Spaniards, probably in too sweeping a manner, branded as ferocious cannibals. In the upper plain of Bogotá, however, amid the heights of the Cordilleras, was found the kingdom of Cundinamarca, which could not indeed rival the arts and splendours of Cuzco and Tenochtitlan, yet had made considerable progress in civilisation. It had temples, altars, and priests; the people cultivated the ground, were decently clothed, and enjoyed security of person and property.

The Spanish conquest was effected with more difficulty in this than in other quarters. The first attacks directed against the inhabitants of the plains were repulsed with severe loss. From Peru, however, two daring adventurers, Quesada and Benalcazar, scaled the loftiest Andes, and subdued with little difficulty Quito and Cundinamarca, which, with the whole region of the Cordilleras, were afterwards formed into the viceroyalty of New Grenada. The Llaneros, or people of the plains, meanwhile desperately maintained their independence; and the Spaniards soon grew weary of shedding their blood, when no gold was to be the reward. By transporting bands of Germans, and even arming the negroes of the islands, they succeeded in compelling the natives to take refuge among the forests of the interior. This coast was then formed into a government, known at first by the name of Terra Firma, but to which the Spaniards afterwards gave the name of Caraccas, and subjected it to the jurisdiction of a captain-general. New Grenada never attained the golden fame of Mexico and Peru; but its fine upper valleys and table-lands became the seat of a considerable agriculture; and a tolerably industrious and numerous population was gradually formed.

The spirit of independence, which had been long secretly forming throughout Spanish America, broke out earlier, and with greater force, in Colombia than in any other of its vast regions. Even in 1781, the introduction of the oppressive tax of the *alcavala* gave rise to a revolt, which had for some time a threatening aspect, as the spirit of liberty had been roused by the successful example of the United States of North America. The French revolution excited a considerable ferment, and the "Rights of Man" were even printed at Santa Fé, though soon suppressed. Yet the attempt to which Miranda was instigated by these symptoms proved to be premature. In 1808, the impulse given by the seizure of Ferdinand VII. and the invasion of Spain, acted instantaneously through this part of the continent. Ferdinand was proclaimed indeed, but all the rulers appointed by the mother country were displaced, and a congress, with officers elected by the people, was substituted. The native Spaniards, being fewer in numbers than in Mexico, and having little military force, made at first scarcely any resistance; but the government of the mother country, considering this as the head-quarters of insurrection, directed hither their main efforts.

They sent successive expeditions under the command of Morillo, one of their ablest generals. Caraccas and Santa Fé were at first recovered, and the Independents were driven to hide themselves amid the rocks of the Andes and the marshes of the Orinoco. They were headed, however, by Bolivar, destined to take his place with Washington among the deliverers of the New World. British troops and officers, after the pacification of Europe, were easily attracted to their standard. After repeated overthrows, and many and dire vicissitudes, the independent cause completely triumphed. In 1821, Morillo consented to an armistice, and returned to Spain. The war was afterwards renewed; but the Spaniards were soon defeated, shut up in Puerto Cabello, and finally (Nov. 23, 1823), compelled to evacuate the whole territory of Colombia, which they never again made any attempt to subjugate. The war had also been vigorously carried on in the southern provinces, but in May, 1822, Sucre, at the head of the combined Peruvian and Colombian forces, routed the royalists at Pichincha, and compelled the city of Quito and the royalist army to capitulate. On the 6th of June, the fall of Pasto into the hands of the patriots closed the struggle in that quarter.

But no sooner was the war of independence at an end, than the schemes of Bolivar, who had rendered such distinguished services in that cause, but who was by no means friendly to republican principles of government, began to occasion new troubles in the country, and sowed the seeds of the dissensions that not long after split the republic into pieces. Proclaimed supreme dictator, the Liberator assumed and exercised powers that rendered the constitution of Cúcuta a nullity, and the friends of constitutional liberty were driven from the country. In this state of things, Venezuela (1830) and Quito renounced their connexion with New Grenada, and established separate constitutions; and the death of Bolivar, which followed soon after (Dec. 17, 1830), left New Grenada at liberty to follow their example.

Sect. IV.—*Political Geography.*

The constitution of Colombia was formed in a congress assembled at Cúcuta, on the 18th July, 1821. Another had been framed, two years before, at Santo Tomé, but only for the province of Venezuela, which, after some resistance, was obliged to yield its claim to the superior power and population of New Grenada. The basis judiciously taken was that of the United States of North America, and the alterations are even such as to give it somewhat less of a democratic character. The legislative power was vested in a congress, consisting of two bodies, the senate and the house of representatives. Every four years the body of the people were appointed to assemble, and choose electors of the canton, who formed a provisional assembly, meeting on the 1st of October. This provisional assembly was to elect both the representatives and the senators, the one for four, and the other for eight years; but one half of the senators were to go out by lot at the end of the fourth year. The right of suffrage was not made universal, as in most of the North American states. The original voter was required to possess the sum of 100 piastres, and after the year 1840 to be able to read and write. The cantonal electors were to possess land to the value of 500 piastres, or an income of 300. The senator or representative must, by this constitution, possess an income of 500 dollars, or be of a learned profession. Besides the power of making laws and decreeing taxes, these houses exercised jointly that of declaring war or making peace. The executive was vested in a president and vice-president, the former of whom must have the qualifications of a senator: he was elected for four, and could not continue in office for a consecutive period of more than eight years. He had only a negative on the laws passed by the two bodies. He could return a law for re-consideration; but if it again passed by a majority of two-thirds of the members, he could not refuse his consent. Neither he nor any of the ministers could be members of the congress. His salary was fixed at 30,000 dollars, and that of the vice-president at 16,000 dollars per annum. The judges were elected by the congress, from lists given by the president; but their duration was appointed, rather too vaguely, to be "as long as their conduct gives satisfaction."

The constitutions of the three states newly formed from the fragments of Colombia, are, with some variations, the same as that of Cúcuta. Attempts have been made to unite them into a confederacy, which should manage their foreign relations; but the project has never succeeded, and seems now to be abandoned.

The amount of the foreign debt of Colombia, was in 1824 nearly 30,000,000 dollars, since which time no interest has been paid, and it has consequently increased to about 50,000,000. It has been recognised by the new states as a common burden, which shall be distributed on equitable principles among them, and each has declared its readiness to meet its respective responsibilities.

Sect. V.—*Productive Industry.*

The territory of Colombia is chiefly distinguished by its vast capacities for improvement, which are developed only in a very imperfect degree. The soil is as various as the states that compose the territory. New Grenada, though a mountainous country, is fertile in all kinds of grain and fruit: the woods consist chiefly of cedars, walnut trees, ebony, Muzo and Guiana wood, taray, Brazil, sassafras, cocoa tree, vanilla, tamarind, medlar, sapotas, guavas, palms, cassia; manchineel, whose juice, fruit, and even branches, emit a subtle poison, which causes general inflammation and tumour, only to be cured by olive oil; and another tree, called the ***habella de Cartagena***, whose bean is the best antidote known against the bite of vipers and snakes. In the Venezuela also are found many precious woods, as the variegated granadillo, resembling tortoise-shell, cedars whose trunks serve as hives for bees, vanillas of superior fragrance, cardamoms, sarsaparilla, indigo, cassia, tamarinds, cinchona; tacamajaco, a noted specific for headach; balsams and oils for the cure of wounds. The province of Guayaquil produces a variety of ship timber, including oak, the strong wood called guachapeli, cedars, also ebony, with a variety of cabinet woods. The provinces of Loxa and Quito are noted for their excellent cinchona. In short, such are the natural resources of this part of South America, that, if its inhabitants were active and industrious, it might become one of the richest and most important countries in the world.

Agriculture in this country, beyond any other in Spanish America, or perhaps in the world, is capable of supplying in the utmost variety the richest productions of the vegetable kingdom. That which chiefly distinguishes it is the cacao, a fruit at once palatable and nutritious, which in the country yields an article of food, and in Europe forms the basis of the chocolate. The cacao of Caraccas is generally reckoned the best in the world; and next to it that of Guayaquil, so much celebrated by Ulloa. The produce is reckoned by Humboldt at 193,000 fanegas, and the export at 145,000, the value of which amounts to nearly 5,000,000 dollars. The tobacco of Caraccas is much superior to that of Virginia, yielding only to that of Cuba and the Rio Negro. The injudicious system, however, of still making it a government monopoly, checked its growth; but this was to be abolished on the 1st of January, 1834. Quinquina, or Jesuit's bark, one of the most valuable articles in the materia medica, is now the produce almost exclusively of Colombia, being brought either from Loxa by way of Guayaquil, or from the hills of the Upper Magdalena. Coffee, cotton, and sugar, find all most favourable soils: coffee, in the table-lands, 1500 to 2000 feet high, of Caraccas and Cumaná; cotton, in the plains of Maracaybo; and sugar in all the warm, low, and moist valleys. Coffee only, however, much exceeds the internal consumption. Indigo was once a very important article, being exported from Caraccas, in the most prosperous times, to the value of 1,000,000 dollars; but it has much declined, and is produced now only in the plain of Varinas. Wheat and other European grain find favourable situations, especially on the table-lands of Bogotá; but as these have not the extent of those of Mexico, the wheat is neither so good nor so abundant; and Colombia cannot dispense with a large import of American flour. The banana grows in the same spontaneous abundance as in Mexico, and M. Mollien draws from it the most sinister auguries that the Colombians will never submit to any settled or laborious habits; but neither they nor any other people of the New World have yet accepted this fruit as a full substitute for bread. The agriculture of the state appears to be still conducted in that indolent and slovenly manner usual where land is cheap and a market distant. The government has lately sought to promote the clearing of waste lands, by disposing of them at a very low rate, and by setting aside two millions of fanegas for foreigners who may be disposed to settle and bring them under cultivation.

The mines of New Grenada have been a subject of brilliant and perhaps romantic expectations. Humboldt observes, that nothing can be more fallacious than the external appearance of rocks and veins, and that, till regular shafts and galleries have been formed, no certainty can be attained. The only important product as yet is gold, obtained by washing the earth and sand in the provinces of Chocó, Popayan, and Antioquia. Humboldt estimates the product during the last years of tranquillity at 18,000 marks. There are indications of various minerals in different quarters. The silver mines of Marquetores, and those called the mountain mines, and the higher and lower mines in the province of Pamplona, are said by Torrente to be so rich that they generally yield two marks of silver per quintal: there are also mines of copper and lead, others of emeralds, which have given name to the province of Muzo, and the valley of Tunja, noted also for its sapphires and other precious stones, and yielding in some places cinnabar and mercury. In the mountains of Antioquia and Guamoro there are diamonds, though of small size, hyacinths, fine garnets in great abundance, excellent pearls in the Rio Hacha, amethysts in Timasco, turquoises in the districts of Pamplona, Suza, and Anserma. There are also rich mines in the district of Chocó; but some of these were neglected in the more general search for platina. From the year 1800 to 1810 were coined in New Grenada 27,350,000 dollars, and from 1810 to 1820, 20,000,000, or 2,000,000 annually; but if the mines were ably managed, the result might be much greater; and it is thought that Chocó alone would yield 2,000,000 dollars a year.

In Santa Martha there are mines of gold, silver, and precious stones, and some rich salt-works. The province of Quito yields gold, silver, copper, quicksilver, topazes, amethysts, emeralds, rock crystal, and very fine marble; in Venezuela is found tin, and also rock crystal, with lapis lazuli, not much inferior to the celebrated ultramarine. The copper mines yielded in one year 1500 quintals of excellent quality. Time only can discover whether the rest will pay the expense of working. The salt mine of Zichaquira, glittering like an immense rock of crystal, has yielded a revenue of 150,000 dollars a year. It is not the only one; and the mineral finds a ready market in the country. The pearls of Panama and the Rio Hacha, notwithstanding their great name, do not yield more than 100,000 dollars a year.

Manufacturing industry can scarcely be said to exist. The leather of Carora, the hammocks of Marquesita Island, and the blankets of Tocuyo, are objects of little importance, even in respect to internal consumption.

Commerce, in consequence of the very circumstance last mentioned, has a peculiar activity. From the total want of manufactures, almost the whole population must be clothed in foreign fabrics. In 1831, the exports from Caraccas consisted of 6,268,640 lbs. coffee, 1,791,814 lbs. cocoa, 192,035 lbs. indigo, with hides, sarsaparilla, and sugar. The entire value amounted to 887,099 dollars. The imports amounted to 975,019 dollars; of which cottons, linens, and woollens made up 561,025 dollars; the rest consisted principally of silks, laces, salt beef, and fish. The tariff of duties is moderate. In 1831, there cleared out from La Guayra 90 vessels; burthen, 9470 tons; of these 9 vessels and 909 tons were for England; 28 vessels and 3882 tons for the United States. Trade is understood to be on the whole in a prosperous state. The internal traffic will one day probably be immense, upon the Orinoco, the Apure, the Meta, and by the Cassiquiare, with the Rio Negro and the Amazons; but all the regions watered by these mighty rivers are as yet little better than deserts. The cataracts also of Atures and Maypures prevent navigation from being carried much above the lowest bend of the Orinoco.

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Passage in the Cordilleras.

Roads can scarcely be said as yet to have any existence. There are only tracks formed by the tread of successive travellers. In many places they lead through the beds of torrents, or through crevices or fissures caused by earthquakes. Sometimes the declivity (*fig.* 994.) is so abrupt that it can be crossed only by a zigzag path cut into steps, which form a staircase as steep as that of one of our steeples. Men, baggage, and merchandise are alike conveyed on the backs of mules, which find their way over these frightful steeps with surprising dexterity; sometimes dropping on their knees, and sliding down the most precipitous hills. A traveller, however, who wishes to escape some of these hardships, may be conveyed in a species of chair placed on the backs of persons, called *silleros*, hired for the purpose, who carry him with surprising comfort and safety. Even in what were called the royal roads, all that has been done is to cut down the trees. War, which usually makes some little compensation for its evils by the formation of fine military roads, has not yet introduced any improvement into those of Colombia. Scattered bodies of partisans without baggage, and with only a few light artillery, could scramble through such openings as the country afforded, and even set a value on the impossibility of transporting through them a regular and equipped army. The exclusive use of mules, without carriages of any description, remarkably increases the expense of conveying goods; yet habit causes it to be followed even on the plains of Venezuela, where there might be room for wagons as large as those which are driven over the Pampas of Buenos Ayres.

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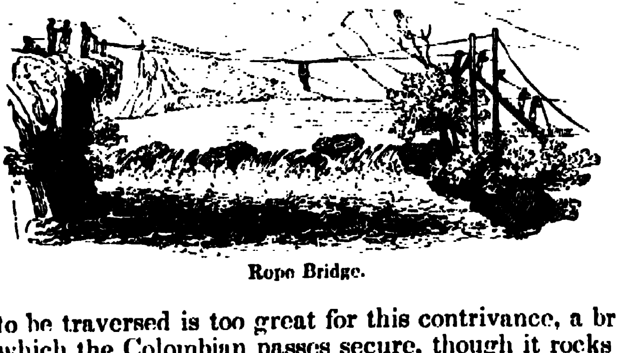

Rope Bridge.

The bridges, which are thrown over the torrents of the Andes, and from steep to steep, are of the most fragile and hazardous description. In a few rare instances only, stone is employed. In general, a few rough planks are laid across, and covered with earth and branches; no fence and no breadth greater than four feet being ever thought necessary. Where the space to be traversed is too great for this contrivance, a bridge of strong cable is constructed, over which the Colombian passes secure, though it rocks beneath him at every step. Sometimes, between distant points, a single rope is stretched across (*fig.* 995.), and a hammock or basket made to run from one end to the other.

Sect. VI.—*Civil and Social State.*

The population of Colombia cannot be computed with any precision from existing data. The most positive is that formed in 1822, upon the reports made by the deputies of each province to settle the law of elections, according to which the amount was 2,643,000. Humboldt, however, who seems to have directed every possible attention to this subject, did not think there could be fewer than 2,785,000, and was even inclined to believe they might exceed 2,900,000. The estimate of 3,500,000, made by the president in 1820, must have been somewhat exaggerated, since official statements make the population of Venezuela in 1834, 900,000; that of New Grenada was ascertained by a census of that year to be 1,687,109; and the republic of the Equator is estimated to contain about 600,000 souls, making an aggregate of 3,187,100. The following table shows the relative proportion of the different races:—

	Venezuela.	New Grenada.	Equator.
Whites	200,000	1,058,000	157,000
Indians	207,000	376,050	393,000
Free Coloured	433,000	168,700	42,000
Slaves	60,000	84,350	8,000
Totals	900,000	1,687,100	600,000

The character of the Colombians is, probably, much influenced by the sudden transition from a depressing despotism to an extreme degree of liberty. They retain much of the gravity, temperance, and sobriety of the Spaniards, with a share of their pride, suspicious temper, and neglect of cleanliness. A courtesy somewhat stately and studied prevails in their demeanour. It is not easy to gain their confidence; but when that is once obtained, they are extremely friendly and cordial. They are hospitable to foreigners, whom, from national pride, however, they regard with secret jealousy. Though they have shown themselves in many instances capable of the most vigorous exertions, their general procedure is slow and sluggish; and to urge a Colombian to stirring activity is like rousing a man out of a dream. The Colombian unwillingly engages in any speculative occupation, or mercantile transactions on a great scale; he prefers quietly accumulating money by retail trade. It certainly redounds much to his honour that, after a war so long and desultory, the country is not infested by robbers or bandits to any extent; and there is no necessity for having houses secured by bolts or bars. An inordinate propensity to gaming prevails among the men, who spend almost all their leisure in this diversion, and often hazard enormous sums. Between the two sexes in Colombia, as in the mother country, prevails a dull mechanical gallantry, the admirer keeping in close and constant attendance upon his mistress, to whom no one else must speak or even look; yet this is, perhaps, less frequently accompanied with anything criminal than a foreigner would be led to suppose.

The following estimate of the situation and prospects of the Colombians is deserving of attention, as proceeding from an intelligent and well-informed observer. "Considering the state of servitude and of moral and intellectual debasement in which they were kept for three centuries under the dominion of Spain, and almost in complete ignorance of the nature and existence of those valuable institutions which they now enjoy, it is not surprising that, inexperienced as they have been in political science, they should have committed some errors, and have occasionally engaged in civil dissensions, in consequence of ambitious and unprincipled men usurping the authority over their countrymen. Yet it augurs well for the future prosperity of these countries that such attempts have in no instance been attended with permanent success, the people being too much alive to the importance of free institutions to submit to any serious privation of them. They possess a great facility of accommodating themselves to existing circumstances which cannot be easily avoided; but being fully aware of the advantages of liberal institutions, they keep them steadily in view, and will sooner or later have them firmly established in their respective countries. In Europe, almost the only intelligence circulated respecting these states has been their errors and civil dissensions, which alone give a very incorrect view of their moral and political condition. Careful observation, however, evinces that they are making rapid advances in the arts and institutions of civilised life, and will ere long with justice assume an important station in the scale of civilised nations. When the advantages which they naturally possess for agriculture, commerce, mining, and all branches of industry, the beauty and salubrity of their climates, and the mild and amiable character of the inhabitants, are sufficiently well known and appreciated, the surplus population of Europe will resort in crowds to those favoured regions, to participate in all the advantages of their abundant resources and free institutions."

The great mass of the Colombians was kept in the most profound ignorance during the three centuries of Spanish government. Four-fifths of the inhabitants, comprehending the Indians, slaves, artisans, and labourers, did not even learn to read or write; and even the children of the more opulent classes were only taught reading, writing, and arithmetic. Some, however, pursued their studies in the colleges, in order to fit themselves for the only employments to which the creoles could aspire, those of clergymen and lawyers. There were universities or colleges at Caraccas, Bogotá, and Quito; but the whole system of education was extremely defective, and the scholars remained ignorant of the actual state of science and philosophy in Europe. Of late years great progress has been made in all the departments of knowledge; free ingress of books from all quarters, the establishment of newspapers and journals, and the liberty of the press which now exists, have greatly tended to enlighten the community.

In 1821 the congress of Cúcuta passed three laws relative to education: the first ordered the establishment of primary schools in every parish, and Lancasterian schools in the principal cities; the second suppressed all convents containing less than nine friars, and appropriated their property to the purposes of education; and the third applied certain escheats, which had formerly devolved on the clergy, to the founding and endowing of colleges in each province. These wise measures have been productive of the happiest results, and schools have been established in almost every parish, and colleges instituted or much improved in the provinces. The system experienced some interruption in consequence of the suspension of some of the laws regarding education at the time when Bolivar attempted to overturn the constitution; but the legislatures of the new states have adopted proper means for carrying it into effect.

The religion is as yet exclusively the Roman Catholic, and its ceremonies are observed with the strictest punctuality. The shrines of Bogotá appear to surpass in magnificence even those of Mexico. The cathedral contains an image of the Virgin, adorned with 1358 diamonds, 1295 emeralds, besides many other precious stones. The other twenty-six churches are all resplendent with gold and jewels. The convents are also numerous, but are of late diminishing. The parish priests rule in the villages with almost absolute sway; but their influence, uniting together the different classes and sexes, is considered on the whole advantageous. Many of the young men who have had more enlarged means of information, have begun to discard the Catholic creed; but a general scepticism, rather than any rational system of religion, seems to have taken the place of their ancient faith.

The races are as numerous and as variously crossed as in Mexico. The negro maintains his place in the scale of humanity; and the mulattoes Paez and Padilla have ranked among the foremost of the heroes who achieved the national independence. Humboldt calculates, contrary to the idea of Depons, that there are not many more than 60,000 slaves in the state; and, by the legislative arrangements, the whole number will be free by the year 1840.

Of the native Indian tribes within this territory, the Caribbees are the ruling people. No nation in the world is stamped with a deeper brand of ferocity, the very name, converted into *cannibals*, being applied to signify devourers of human flesh. The charge appears to have been greatly exaggerated by the Spaniards, who certainly met with a most fierce resistance, and sought by this allegation to justify the system of enslaving and exterminating the savage tribes. Oppressed by a long series of unequal war, they were considered as nearly extinct, till Humboldt, in his voyages along the Orinoco and its tributaries, ascertained that there must be still about 40,000 of pure and unmixed blood. They are a fine tall race, whose figures, of a reddish copper colour, with their picturesque drapery, resemble antique statues of bronze. They shave great part of the forehead, which gives them somewhat the appearance of monks; they wear only a tuft on the crown. They have dark intelligent eyes, a gravity in their manners, and in their features an expression of severity, and even of sadness. They still retain the pride of a conquering people, who, before the arrival of the Spaniards, had driven before them all the native tribes in this part of the continent. A great proportion of them, however, have now been civilised in a surprising degree by the missionaries, who exercise over them an almost absolute sway. Each holiday they present themselves loaded with offerings of every kind which can be acceptable to the priest; and after divine service, those of both sexes who have been guilty of any offence, receive in his presence a sound whipping, which they bear with exemplary patience. Humboldt, though scandalised by this scene in the view of ecclesiastical dignity, conceives that such strict discipline may be necessary to keep these savage natives in check. They cruelly torment their children by imprinting on them the barbarous ornament produced by raising the flesh in long stripes along the legs and thighs. They are free, however, from the equally barbarous practice of flattening the head by compression, which is general among the other tribes of the Orinoco, the specimens of whose crania, shown in Europe as destitute of forehead, are merely skulls shaped between planks. In this country occur the caste of albinos, with white hair, of weakly and delicate constitution, low stature, and very effeminate character: they have large eyes, and are so weak-sighted, that they cannot endure the rays of the sun, though they can see clearly by moonlight.

The amusements of Colombia are chiefly borrowed from the mother country. Dancing is passionately followed in the several forms of the fandango, the bolero, and the Spanish country-dance. Bull and cock fighting are equally favourite sports, and tend to keep alive that ferocity which is the main blemish in the moral character of the Spaniards. Here, as over all South America, they practise what is called the *lasso*, or catching the bull by a noose formed at the end of a long leathern cord, and thrown over him. Under the head of amusements may fairly be ranked the religious ceremonies, and especially processions, in which they certainly outstrip the mother country, both as to splendour and absurdity. Persons representing the leading scripture characters are paraded through the streets, arrayed in the most magnificent robes, and covered with pearls, diamonds, emeralds, and rubies. In the grand procession at Quito, characterised by Mr. Stevenson as an ecclesiastical puppet-show, the Holy Virgin appears in the uniform of a general officer, with a gold-laced hat and a red cockade. These festivals are, in fact, accompanied by games and shows, and usually terminate in balls and masquerades.

The Colombians, especially the females, affect a singular plainness of dress. They almost universally walk the streets in a large Spanish mantle, a wide cloak of black or light blue, which envelopes the person in such a manner as often to leave nothing visible except the eyes. Their festival and ball dresses, on the other hand, are too gaudy, being covered all over with jewels or tinsel.

Food is supplied to the Colombians plentifully and cheaply, especially animal food from the table plains or the Llanos. It is eaten in very great quantity, there being half as many cattle slaughtered in Caraccas as in Paris, though the population is not a twentieth. Fruits are various and delicate. Their festive dinners are rare, but magnificent; the table groans under numberless dishes; yet, though the wines are various, they do not sit long at table, but usually conclude with a ball.

Sect. VII.—*Local Geography.*

The new states which have been formed by the division of the former republic of Colombia are, Venezuela, in the east; New Grenada, in the north and centre; and Ecuador or Equator, in the south-west.

Subsect. 1.—*New Grenada.*

New Grenada, comprising the ancient viceroyalty of that name, extends from 2° S. to 12° N. lat., and from 68° to 83° W. long., over an area of 380,000 square miles. It is the most populous and powerful of the Colombian republics; its population by a census of 1835 was 1,687,109. It is divided into five departments, which are subdivided into eighteen provinces

Departments.	Capitals.
Isthmus	Panamá
Magdalena	Carthagena
Boyaca	Tunja
Cundinamarca	Bogotá
Cauca	Popayan

Cundinamarca, the original name of the Indian kingdom established in this part of America, forms the chief and central department, comprising the provinces of Bogotá, Antioquia, Neyva, and Mariquita. It consists of ranges of vast mountains sloping down to the banks of the Upper Magdalena, and partly also of the Cauca. It presents in the extreme that abrupt transition between the most opposite soils and climates remarked as peculiar to this part of America; but the most valuable tracts consist of the fine though not very extensive table-lands dispersed along the declivity.

Santa Fé de Bogotá, the capital of New Grenada, is situated on a table plain, 50 miles by 25, and 8000 feet above the level of the sea. This plain, though under the line, has the climate of Britain, and even of Scotland, though without the change of seasons, the perpetual temperature being that of spring or autumn, and the thermometer seldom falling below 47° or rising above 70°. The only alternation is formed by the wet seasons, which are two: the first comprehending March, April, and May; the second, September, October, and November; and these, being colder than the others, make two winters and two summers. The surrounding plain is excessively fertile, fine, and fruitful, yielding two crops in the year of the best European grain. It is hemmed in by lofty mountains, rugged precipices, roaring torrents, and frightful abysses. The city of Santa Fé itself is enclosed in a grand mountain circuit, cliffs of 1000 feet rising immediately above it. The city was founded in 1538, by Quesada, and rapidly increased: it is now supposed to contain 30,000 inhabitants. Its streets and squares are open and spacious, but the houses are generally heavy and old-fashioned; and even the late palace of the viceroy displays little magnificence. The beauty of the city rests wholly on its ecclesiastical edifices, which consist of twenty-six churches and twelve convents. Many of the former are not only splendid, but built with some taste; and their numerous spires, amid the grandeur of the surrounding scenery, give it a very fine appearance. It contains an university and archiepiscopal see, and carries on a considerable trade in cotton goods, hides, and grain.

The scenery of the plain of Bogotá is marked by many striking and picturesque features. Among these are particularly conspicuous the Fall of Tequendama (*fig.* 996.), and the natural bridges of Icononzo. The first is formed by the river Bogotá, as it descends precipitously from its native plain to mingle with the Magdalena. Its mass of waters, previously spread to a considerable breadth, are contracted to forty feet, and dashed down a precipice 650 feet high, into an almost fathomless abyss. The waters, as they beat against the rocks beneath, rise up sometimes in columns, sometimes in myriads of fleecy and fantastic shapes, like those formed by fireworks. The immense clouds of rising vapour, when illuminated by the sun, form beautiful rainbows. The plain above the fall is covered with the grain of Europe, while at its foot grow the palms and sugar-cane of the tropic. The bridge of Icononzo (*fig.* 997.) is a natural arch across a chasm 360 feet deep, at the bottom of which flows a rapid torrent, which would have been otherwise impassable. It appears to have been formed by three masses of rock detached from their original position, and thrown together by an earthquake. It is about fifty feet long and forty broad. At one spot, a view is obtained into the abyss beneath. The continual night which reigns there, the birds of darkness whose mournful cries re-echo in the caverns, the gloomy waters which fill the depth of the precipice, the thick foliage of the trees which partly conceal this scene of mystery, and the darkness which shrouds all these horrors, convey no feeble idea of the empire of death.

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Fall of Tequendama.

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Bridge of Icononzo.

The province of *Neyva* is situated above Bogotá, in the highest part of the course of the Magdalena, yet on a plain so much lower as to make it excessively hot; while the waters of the Magdalena, fed from the snowy regions above, are excessively cold. Cacao is the chief product, which is exported to the extent of 2000 loads, costing thirty piastres each. The Andaquis, a nation of savage Indians, occupy the upper tracts whence the Magdalena rises, and which are accessible only to foot passengers.

Mariquita is a province situated below Bogotá, on the western bank of the river, and on the middle range of the Andes, as they slope downward to it. Its table-lands are not extensive, and the city of Mariquita, which stands at a considerable height, has been chiefly supported by mines, which are now abandoned. Honda, immediately on the river, is a town of some importance, being the highest point to which boats can ascend. Here, therefore, the goods are disembarked, and conveyed into the interior, either by slight rafts, or on the backs of mules.

Antioquia is a more important province, reaching from the Lower Magdalena to the Cauca, on which it is principally situated. It lies between the middle and western range of the Cordilleras. The first, called here the Quindiu (*fig.* 998.), separates the valleys of the Magdalena and Cauca. It is very lofty and steep, its highest peak of Tolima being ascertained by Humboldt to be 17,190 feet high, and consequently the most elevated in the northern Andes. It is an uniform ridge, opposing very great obstacles to a passage; but it does not throw up those magnificent cones, which strike the view in the equatorial Andes. The province of Antioquia is nearly in a state of nature. Of the 2200 square leagues which compose it, only 60 are cultivated, 250 are in pasturage, and the rest is covered with thick and entangled forests.

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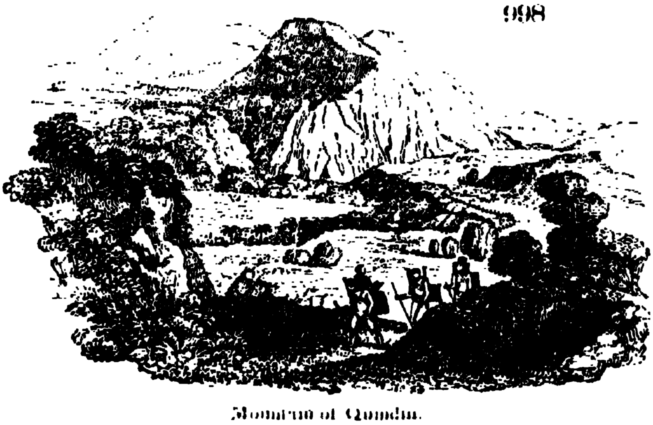

Mountain of Quindiu.

Amid its profusion of foliage, indeed, are found the cinchona, the wax-tree, and some valuable dyeing and ornamental woods; but the chief wealth of Antioquia is derived from the auriferous character of its mountains, particularly the Quindiu. Restrepo reckons the annual value of the gold at 1,200,000 piastres; the products of agriculture at only 338,000 piastres. Medellin is the capital and principal town of the province.

The department of Boyaca, divided into the provinces of Tunja, Socorro, Pamplona, and Casanare, occupies the slopes of the eastern Andes, as they stretch northwards towards the lake and plains of Maracaybo. It presents the same aspect as the regions now described; rugged passes, bleak paramos, sultry valleys, interspersed with cool and fertile table-lands. The province of Tunja is generally bleak and elevated, and its agricultural produce small; but in return it is the most industrious in the whole state, and manufactures a great quantity of coarse cottons, with which it supplies the other provinces. The city of Tunja was the Indian capital of Cundinamarca, and continued, even under the Spaniards, to be a rich place, till it was superseded by Santa Fé. Sogamozo was a celebrated place of Indian pilgrimage, and contained a temple of the Sun. Socorro is a more fertile and cultivated region. The town is rudely built, but contains 12,000 inhabitants, busily employed in coarse cotton fabrics. Pamplona is a considerable and pleasant town in a lofty situation. Rosario de Cucuta, further north, is remarkable for the session of the constituent congress in 1821. Casanare, on the river of the same name, forms the medium by which the provinces on the Magdalena communicate with the Llanos and the coast of Caraccas; under the old régime the influence of the merchants of Carthagena caused it to be shut up, in order to secure their own monopoly of the Santa Fé trade; but as such absurd restrictions are now abolished, the Casanare may become an important channel of commerce.

The department of the Cauca occupies the upper part of the course of that river, with the plain extending to the Pacific. The mountainous part forms the provinces of Popayan and Pasto; the plain, those of Chocó and Buenaventura.

Popayan is one of the richest and finest provinces of America. Its plain is more extended and productive than that of Santa Fé, and maintains a superior breed of horses and cattle. Cultivation, however, is indolently carried on, being abandoned chiefly to slaves. The inhabitants look to a more brilliant source of wealth in the gold of which their soil, everywhere tinged with red and yellow, indicates the presence. In the numerous mines, it is found in earth, from which it is extracted by agitation in water, as in Western Africa. Popayan is a handsome city, built more regularly and elegantly than Santa Fé, and inhabited by many opulent merchants, who have suffered severely by the revolution. Its site, on the river Cauca, is picturesque; the climate delicious, notwithstanding the frequent rains and tempests. It enjoys a considerable trade in European merchandise, which it receives from Carthagena, and distributes to Quito and other neighbouring districts, together with the products of its fertile soil. Above it rises the volcano of Purace, continually emitting flames, unless when obstructed by the substances thrown out by itself, in which case Indians are employed to clear it, lest the subterraneous flame should produce earthquake. From its summit a river descends to Popayan, so impregnated with acid substances, that the Spaniards call it Vinagre. On its banks are the most picturesque, perhaps, of all the falls (*fig.* 999.) in America, with which Humboldt has made us acquainted. Cali is a clean and well-built town, in a delightful situation; and the inhabitants have attained considerable prosperity by exporting tobacco and other produce of the interior. Lower down the river is Cartago, in a situation which the cold blasts from the snowy mountains would render inclement, were it not sheltered by a ridge of lower hills. The surrounding country contains many valuable mines, and would be most rich in cacao, coffee, sugar, and all tropical productions, if cultivators and a market could be found.

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Cascade of Vinagre.

The district of Chocó occupies the plain between the most western range of the Cordillera and the Pacific. It is excessively humid and unhealthy. The streams pouring down from the Andes, and the congregated clouds borne in from the great ocean, produce numerous and rapid rivers, and would afford great accommodations to commerce. Unluckily the ground is so wet, that all Chocó may be considered as a vast morass covered with impenetrable forests. It is, likewise, so soft, that the houses can be built only upon stakes; and even culinary vegetables cannot be grown, unless upon wooden boards artificially elevated. The ground, however, in the few places that are cleared, produces most abundantly, maize, sugar-cane, and banana. But Chocó derives its wealth, as yet, wholly from its mineral treasures. Between the height of 250 and 2000 feet, the earth can scarcely be dug, at any point, without presenting gold, combined with platina, in greater or less quantities. The platina is usually found in the proportion of two pounds to six of gold. The former metal sells for eight or ten dollars a pound; the latter at 200 dollars, bringing in Jamaica 250. The mines have declined greatly during the war, which drew away all the best negroes, and they do not now yield more than twenty quintals of gold, and ten of platina. Captain Cochrane apprehends that the approaching emancipation of the slaves will put an end to the working altogether, and that it will be impossible to bribe free negroes to dig, in a climate which, though not oppressively hot, is damp and extremely unwholesome. Chocó has only large trading villages: Quibdo, which carries on the commerce of the Atrato, a fine navigable stream flowing northwards into the Gulf of Darien; Novita, that of the San Juan; and Buenaventura, that of the Dagua, both which flow into the Pacific. Buenaventura, with its district, comprising the southern part of Chocó, has lately been formed into a separate province. It includes the district of Barbacoas, on the river of the same name, and precisely similar to Chocó. Provisions cannot be raised on account of the excessive moisture, and must all be brought from the table-land of Pasto on men's shoulders, there being no road by which even a mule can travel; but Barbacoas derives considerable wealth from its *lavaderos* of gold and platina.

Pasto, the most southern province of Cauca, bordering to the south on that of Imbabura in Equator, abounds in excellent pastures, to which, probably, it owes its name. The triple chain of the Magdalena cordilleras, and the double chain of those of Quito, here unite into one mass, which is called by Humboldt the knot of the mountains of Los Pastos. The inhabited land is here 10,000 feet above the level of the ocean. It is the Thibet of equinoctial America. In the woods of Pasto grows the tree which yields a resin, called in that country *mopa-mopa*, from which the natives make a very beautiful varnish, of so durable a quality as not to be softened by boiling water or dissolved by acids. The district is rich in cattle, and produces also the grain of the temperate climates. Pasto is a considerable town, and the inhabitants manufacture a peculiar species of cabinet-work of considerable elegance. It is surrounded by volcanoes, and is accessible only through rugged and narrow passes. Previous to 1834, when it was destroyed by an earthquake, its population amounted to 10,000.

The department of Magdalena, lying on both sides of the Lower Magdalena, and occupying the coast from the Gulf of Venezuela to the Gulf of Darien, is penetrated by the navigable channels of the Cauca and the Magdalena, and has some fine harbours on its coasts. "Nature," says a traveller, "seems to have dug the bed of the Magdalena in the midst of the Cordilleras of the Andes, on purpose to form a channel of communication between the mountains and the sea; yet it would have been nothing but an unnavigable torrent, had not its course been stopped in many parts by masses of rocks disposed in such a manner as to break its violence. Its waters, thus arrested, flow gently into the plains of the provinces of Santa Martha and Carthagena, which they fertilize and refresh by their evaporation." This department comprises the four provinces of Rio Hacha, Santa Martha, Mompox, and Carthagena. Rio Hacha is a small town with a harbour, and once the seat of a pearl fishery, which never proved very successful. Further west is Santa Martha, situated in a country pervaded by a detached range of lofty mountains. It has a good harbour, is strongly fortified, and carries on considerable trade. Its population is about 6,000 souls.

The province of Carthagena is chiefly distinguished by its capital of the same name. This city long considered by the Spaniards as the bulwark of their possessions in America, equally noted for the successful attacks of Drake and the buccaneers, and for the disastrous failure of Vernon in 1741, has lost much of its former importance. The fortifications are considerably decayed, yet it is the chief arsenal of the republic. The packet-boats, which maintain the intercourse with Europe and the United States, sail to and from Carthagena; and it absorbs most of the commerce of the Magdalena and its tributaries. It stands on a low, sandy point in the delta of the former river, and notwithstanding there are some handsome churches and convents, it has on the whole a gloomy aspect. Its population is supposed to amount to about 18,000. Turbaco, a little Indian village in the vicinity, to which the wealthy Carthagenians retire in the hot season, is distinguished by the curious phenomenon of the *volcancitos* (little volcanoes), consisting of about 20 cones, from 20 to 25 feet high, whence issue constant eruptions of gas, sometimes accompanied with mud and water. Tolu, in a rich vegetable district of this province, is noted for the balsam bearing its name. Mompox, in the province of the same name, derives some importance from its population of 10,000 souls. Ocaña, a village higher up in the same province, was the seat of a congress in 1828.

The department of the Isthmus, comprising the provinces of Panama and Veragua, is a long, narrow strip of land separating the Atlantic and Pacific. The narrowest part of the isthmus between the Bay of Mandinga or San Blas, and the Gulf of San Miguel at Chepo, is only 30 miles in width, and the distance from Panama to Chagres is but 50 miles. Between the latter place and Chorrera the mountains of Veragua sink down, and the country is low and level. The usual routes across the isthmus are from Porto Bello and Chagres to Panama; but the harbour of Chagres is not good, and does not admit vessels of more than twelve feet draft, and the climate of Porto Bello is so fatal that no white man can remain there more than a few weeks, and even negroes suffer from its effects. It has been proposed to construct a rail-road from the Atlantic to the Pacific at this place.

Panama and Porto Bello, on the opposite sides of the isthmus, bore a great name in America, when they were the exclusive channel by which the wealth of Peru was conveyed to the mother country. Now, when both that wealth is diminished, and a great part of it is transported round Cape Horn, their consequence has much declined. Yet Panama, on the coast of the Pacific, is still a fortified place, and carries on some trade. It contains a beautiful cathedral, four monasteries, now deserted, and other large buildings, and maintains a population of 10,800. Porto Bello, so called from its fine harbour, is in a state of decay, and its pestilential climate has given it the name of the grave of Europeans. It is now inhabited only by a few negroes and mulattoes, the whole population not exceeding 1200. Here was once held the richest fair in America, but its trade is now chiefly removed to Chagres, a miserable little town with 1000 inhabitants. Near Cape San Blas is a fishery of pearls and turtle; the former carried on by an English company to little advantage, the latter affording profitable employment to about 120 individuals, who drive a trade in the flesh, oil, and shell of the turtles. Chorrera, ten miles from Panama, has 4000 inhabitants. Santiago, capital of the province of Veragua, is a place of some consequence, with 5000 inhabitants. Nata in the same province has a population of 4000.

Subsect. 2.—*Republic of the Equator.*

The republic of the Equator (Ecuador), comprising the old Spanish presidency of Quito, which was annexed to the viceroyalty of New Grenada in 1718, extends from the junction of the Caqueta and the Amazons, 65° W. lon. to the Pacific, and from 7° S. to 2° N. lat. On the Pacific it occupies the coast from the Mira to the Tumbez; its superficial area is about 325,000 square miles. The republic is divided into three departments, which are subdivided into eight provinces, and has a population of about 600,000.

Departments.	Capitals.
Equator	Quito
Guayaquil	Guayaquil
Assuay	Cuenca.

The department of the Equator forms the finest table plain in all America. It has an average breadth of about thirty miles, enclosed between two parallel ranges of the loftiest Andes. In soil and climate, it possesses a felicity almost approaching to that which fable has ascribed to the golden age. The climate is that of a perpetual spring, at once benign and equal, and even during the four months of rain, the mornings and evenings are clear and beautiful. Vegetation never ceases; the country is called the evergreen Quito; the trees and meadows are crowned with perpetual verdure. The European sees with astonishment the plough and the sickle at once in equal activity; herbs of the same species here fading through age, there beginning to bud; one flower drooping, and its sister unfolding its beauties to the sun. Standing on an eminence, the spectator views the tints of spring, summer, and autumn, all blended. But the feature which renders the view from Quito the most enchanting, perhaps, that the eye ever beheld, is that above this beautiful valley, and resting, as it were, on its verdant hills, there rise all the loftiest volcanic cones of the Andes. From one point of view, eleven may be discovered, clad in perpetual snow. These mountains, particularly Pichincha (*fig.* 1000.), having been chosen by the French academicians for the operations by which they determined the figure of the earth, are considered by Humboldt as the classic land of modern astronomy. They have been made the principle of the division of the department into provinces; the southern being called Chimborazo, the middle Pichincha, which immediately towers above the city of Quito, and the northern Ymbabura. In this happy vale are found many monuments of the sway of the Incas, who, though they had their main seat of empire at Cuzco, ranked Quito as one of

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Pichincha.

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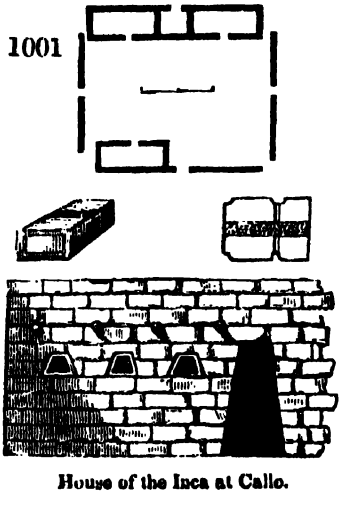


House of the Inca at Callo.

their most valued provinces. The ruins near Cayambe may be called superb; they form a circle of forty-eight feet in diameter, fifteen feet high, and five feet thick: and though built only of brick and clay, they have resisted the violent rains of the country, and are in a state of perfect preservation. The remains of the palace of Callo (*fig.* 1001.) present one of the most perfect examples of the ancient architecture of the Peruvians, which, throughout the vast extent of the empire, are marked by the most striking similarity. It forms a square, each side of which is about 100 feet long; four gates and eight interior apartments may be distinctly traced. The gates resemble those of the Egyptian temples, and the niches, of which there are eighteen in each division, are distributed in a very symmetrical manner. The remains of spacious porphyry palaces are found also at Autun, Canar, and some other places.

The productions of Quito are equally various as at Santa Fé, all gradations of climate occurring in a similar proximity; but the most valuable are those of the temperate climates; grain, fruits, and rich pasturage.

Quito, leaning, as it were, on the side of Pichincha, more than 9000 feet above the sea, is one of the finest and largest cities in the New World. It has four streets, broad, handsome, and well paved, and three spacious squares, in which the principal convents and dwelling-houses are situated; but the rest, extending up the sides of Pichincha, are crooked and irregular. The churches and convents are built with great magnificence and even some taste. The most elegant is the college formerly belonging to the Jesuits, finely adorned with Corinthian pillars, and wreaths of flowers executed in stone. The convent of San Francisco is of vast extent, and has a massive yet neat façade of the Tuscan order. Quito has two universities, which are numerously attended and carefully conducted; and it is considered comparatively as a sort of South American Athens. The inhabitants are gay, volatile, hospitable, and courteous. Quito is noted for its viands, particularly ices, confectionary, maize, and potato cakes. Vast quantities of cheese are consumed, mixed with pumpkins, gourds, pulse, and other vegetables. The population is about 70,000. Latacunga, in Tacunga, in this province, is a place of some importance, with 16,000 inhabitants.

The districts of Esmeraldas and Atacames lie between the mountainous part of Quito and the ocean. They are very fertile, yielding cacao of the very best quality, sugar-cane in abundance, vegetables, fruits, and palms, all excellent, and great variety of timber. The maize is not good, but four crops may be raised in the year. The inhabitants are a mixed race of Negroes and Indians, and call themselves Christians without even observing the ceremonies of the church. Their industry is quite in an infant state. Esmeraldas and Atacames are merely villages. Riobamba, in the province of Chimborazo, with 20,000 inhabitants, and Ibarra and Otavalo in that of Ymbabura, are considerable towns.

The department of Asuay derives its name from a knot or mass of lofty mountains on the southern frontier of Quito. It is divided into three provinces; Cuenca, Loxa, Jaen, with Maynas. The first two are situated on table-lands of the Cordillera, which are considered by Humboldt as mere prolongations of that of Quito. Like it they are agreeable and fertile, without being either so extremely beautiful, or bordered by such grand and lofty elevations. Loxa affords the finest cinchona, and was long supposed to be the only spot which produced that precious medicament in any perfection. The province of Jaen is situated on the eastern slope of the Cordillera, and the great Llanos, or plains, which extend to and beyond the Amazon. These tracts are rugged, marshy, covered with thick and impenetrable forests. Many parts might yield cacao, cotton, and tobacco in abundance; but the culture is very partial. There are some missions along the Amazons, the communication with which is maintained only by the Indians on foot, carrying a long knife to cut their way through the underwood. Cuenca, the principal town, has some manufacturing industry, and contains a college. Its population amounts to 20,000. Its neighbourhood is remarkable as containing the ruins of several Peruvian works, such as the fortress of Cañar or the Ingapilca, composed of large blocks of hewn stone; the Ingachungana or Inca's chair, cut in the solid rock, and the remains of the great road of the Incas. Loxa is a small town, principally noteworthy from the great quantities of the famous quinine tree in its vicinity. St. Jaen is a place of little importance, on the frontiers of the civilised part of the country; vast wildernesses, inhabited by warlike and hostile Indians, stretch eastward of it. There are some remarkable monuments of the Incas in the surrounding districts.

Guayaquil forms one of the most important departments of Equator, which was for some time held alternately by Colombia and Peru. It is now divided into two provinces, Guayaquil and Manabi. The country is very fertile, particularly in cacao, inferior indeed in quality to that of Caraccas; but there has always been a demand to the extent of the quantity produced, which Mr. Stevenson estimates at 600,000 fanegas of three bushels each, and selling sometimes at seven dollars the fanega. There are also large plantations of tobacco; a great amount of timber and salt is exported; and large droves of horned cattle, mules, and horses are driven from the savannahs into the interior. Guayaquil, the capital, on the bay of the same name, founded by Pizarro in 1533, contains 20,000 inhabitants, and is one of the most flourishing commercial cities in South America. Its dockyard is particularly extensive.

It produced one ship of 700 tons: very commonly vessels of 300 or 400 tons are built there: but it is chiefly noted for schooners of 150 to 200 tons. The houses stand in fine picturesque confusion, along the sides and the top of a hill: they are handsome and commodious; but none of the public edifices are very splendid. The animal food is not of very good quality, but nowhere does there exist a finer fruit market; the plantain is supposed to be more esteemed and eaten than in any other place. Guayaquil, like Egypt, has its plagues. The air swarms with mosquitoes and other flies still more tormenting; the ground teems with snakes, centipedes, and other reptiles, whose bite causes fever and inflammation. There is a cameleon whose scratch is believed to be mortal, a belief which seems quite chimerical, but which greatly harasses the citizens. The ants cannot be prevented from filling even the dishes: and sometimes, when a tart is cut up, they are seen running off in all directions, leaving the interior a void. Lastly, the shores are crowded with caymans and alligators, whose number cannot, by the utmost exertion, be kept within any tolerable limits. The beauty of the ladies of Guayaquil is celebrated throughout all America: they have complexions as fair as any European, with blue eyes and light hair. They have also an agreeable gaiety, joined to a propriety of conduct, which renders the society of this place particularly engaging.

About 170 leagues west of the coast is the fine group of the Galapagos (Tortoise) Islands, deriving their name from the abundance of a gigantic species of land tortoise, to which our distinguished naturalist, Dr. Harlan, has given the name of *Testudo elephantopus*, or elephant tortoise. The islands, which enjoy a delightful climate and a fertile soil, have recently been occupied by a colony from Guayaquil.

Subsect. III.—*Venezuela.*

The republic of Venezuela, consisting of the former captaincy-general of Caraccas, to which was attached the extensive tract, known under the name of Spanish Guiana, extends from the Essequibo to the Gulf of Venezuela. It stretches over an area of 450,000 square miles, lying between 58° to 73° W. long., and 2° S. and 12° N. lat. It is divided into four departments, which are subdivided into 12 provinces.

Departments.	Capitals.
Orinoco	Varinas
Maturin	Cumana
Venezuela	Caraccas
Zulia	Maracaybo.

Venezuela bears a completely opposite aspect to the two former divisions. While they consist of the declivities and valleys of the loftiest Andes, Venezuela forms a plain of immense extent, reaching westward to and beyond the Orinoco. This region is divided into three parts, distinguished by the most marked contrasts both natural and social. The first consists of the forest territory beyond the Orinoco. It exists in an entirely unsubdued and savage state, peopled by the Caribs and other tribes, who roam from place to place, and wage almost continual war with each other. A few only have been formed by the missionaries into *reductions*, and inured to the habits of civilised life. The second part consists of the Llanos; boundless plains, where the eye, in the compass of a wide horizon, often does not discover an eminence of six feet high. Like the Pampas of La Plata, they are covered with the most luxuriant pastures, on which, according to Depons, 1,200,000 oxen, 180,000 horses, and 90,000 mules are fed. Some of the great proprietors possess 14,000 head of cattle. The export of the hides of these animals forms one of the principal branches of the commerce of Venezuela. The third division, consisting of a coast about 600 miles long, and the territory immediately adjoining to it, includes all that exhibits any degree of culture or civilisation. Here the West India products, and particularly cacao of superior quality, are cultivated to a considerable extent; and a trade is carried on, which, though interrupted by the revolutionary war and other calamities, is likely, in periods of tranquillity, to be revived and extended.

The department of Venezuela consists of the two provinces of Caraccas and Carabobo, the former of which contains the capital of the republic, Caraccas, situated considerably to the eastward along this coast, which has always been the capital of Venezuela, and previous to 1812 was a very large city, containing above 40,000 inhabitants. On the 26th of March it was overthrown by one of the most dreadful earthquakes recorded in either hemisphere. After four in the evening, two successive shocks were felt, during which the ground was in continual undulation, and heaved like a fluid in a state of ebullition. The danger was then thought to be over, when a subterranean noise was heard, like the rolling of loud thunder; it was followed by two shocks, one perpendicular and one undulatory, so tremendous, that in a few seconds the whole city was in ruins. Several of the loftiest churches fell, burying 3000 or 4000 of the inhabitants, and they were so completely destroyed, that none of the fragments were more than five or six feet above the ground. Nearly 10,000 persons perished on the spot, besides many more who died afterwards, in consequence of wounds and privations. The agitation of the revolutionary contest obstructed the revival of Caraccas, and in 1830 it did not contain above 23,000 inhabitants. The city is finely situated, in a valley between the sea and the lofty mountain of the Silla, whose two peaks rise to the height of nearly 9000 feet. The cathedral is spacious, but massive and heavy. Alta Gracia, its most elegant church, was overthrown by the earthquake. There is an university on a very large scale, though the objects of instruction are somewhat obsolete.

La Guayra, about twelve miles from Caraccas, of which it is the port, notwithstanding its unhealthy climate and bad harbour, is the seat of a very considerable trade. Similar disasters have reduced it from a population of 13,000 to scarcely 5000; but it is now reviving.

Several large cities occur on the long line of coast which extends westward from Caraccas, in the province of Carabobo. Valencia flourishes in consequence of the fine interior territory, the trade of which is conducted through it, whence it is supposed to maintain a population of about 15,000. Its port, about ten leagues distant, called Puerto Cabello, has an admirable harbour, but is extremely unhealthy. The department of Zulia comprises the provinces of Maracaybo, Coro, Truxillo, and Merida, called from their respective capitals. Coro, once the capital of Venezuela, having lost that distinction and a great part of its trade, is now much decayed. Maracaybo, happily situated at the junction between a bay and a large lake reaching far into the interior, early became a great city. It contains many descendants of the early conquerors, who live in proud indolence: the rest of the inhabitants gain wealth by traffic; and the whole are supposed to be nearly 20,000. Truxillo, in a fine country near the head of the lake, early became one of the most flourishing cities in America; but being, in 1678, plundered and reduced to ashes by Gramont the buccaneer, it has recovered only in so far as to be a tolerable country town, though presenting monuments of its former importance. It is almost rivalled by Merida, a neat town to the west of it.

Some considerable cities occur on the coast to the east of Caraccas, in the department of Maturin. Cumana is situated on an extensive and fertile plain on the Lower Orinoco, bounded by a curtain of rude mountains, covered by luxuriant forests. Numerous herds run wild on its savannahs, and in the plain on the coast very fine tobacco is cultivated. It has a very spacious and noble harbour, and the whole gulf of Cariaco, on which it is situated, affords good anchorage. Mules, cattle, and provisions are exported to the West Indies; but there is no longer room for the very large contraband which prevailed when the Spanish Main was generally closed against Britain. The inhabitants, reckoned by Humboldt at 18,000, do not probably now much exceed 10,000. Cumana has suffered dreadfully by earthquakes: that of 1766 laid it completely in ruins; hence it contains no lofty or important edifice. New Barcelona, to the westward, on an extensive plain overrun by wild cattle, carries on a similar trade, which supports a population of about 5000. The isle of Cubagua, on this coast, once famous for a pearl-fishery, is now deserted. In the island of Marguarita is the little town of Pampatar, which has been declared a free port.

The great plains in the interior of Venezuela and on the Orinoco, possessing neither manufactures nor commerce, cannot contain cities of any magnitude. Yet Varinas was reckoned a neat and handsome place, and, notwithstanding severe losses during the revolutionary war, has still 3000 inhabitants. Manteral derives some importance from the commerce of the Apure, on which it is situated. St. Thomé d'Angostura, the only city yet founded on the Orinoco, notwithstanding recent losses, is still about equal to Varinas, and is the seat of a bishop and a college. It was in this region that report placed the fabulous El Dorado, the golden kingdom of Manoa, which was the object of so many expeditions in the 16th century. Here, it was asserted, there were more splendid cities and greater abundance of gold, than even the wealthy Peru could boast, and as late as 1780, a large party of Spaniards perished in search of this golden region.

CHAPTER VI.

PERU AND BOLIVIA.

Peru, of all the regions south of the Gulf of Mexico, is the most celebrated for wealth and ancient civilisation. Its very name is proverbially used to denote profuse abundance of the most precious metals. Yet the Spaniards, towards the close of the last century, severed from Peru all the ultra-Andean regions, called Upper Peru, comprising the richest mines and the greatest mass of the native population, and annexed them to the viceroyalty of Buenos Ayres. We cannot but regret, with Humboldt, this attempt "to efface the historical remembrances of nations. The associations," he observes, "of the Indians who inhabit these countries are oftener directed towards Cuzco, the centre of the ancient grandeur of the empire of the Incas, than towards the plains of Buenos Ayres." Besides, we must say, that, in our estimation, the idea of "rich Potosi's mines" was so strictly associated with that of Peru, that we could not willingly see them separated. In fact, the artificial ties formed by the court of Spain were finally dissolved by recent events. Upper Peru, having been liberated by a force from Colombia under Bolivar, has been erected into an independent republic, under the name of Bolivia. Buenos Ayres, having in vain endeavoured to effect an union

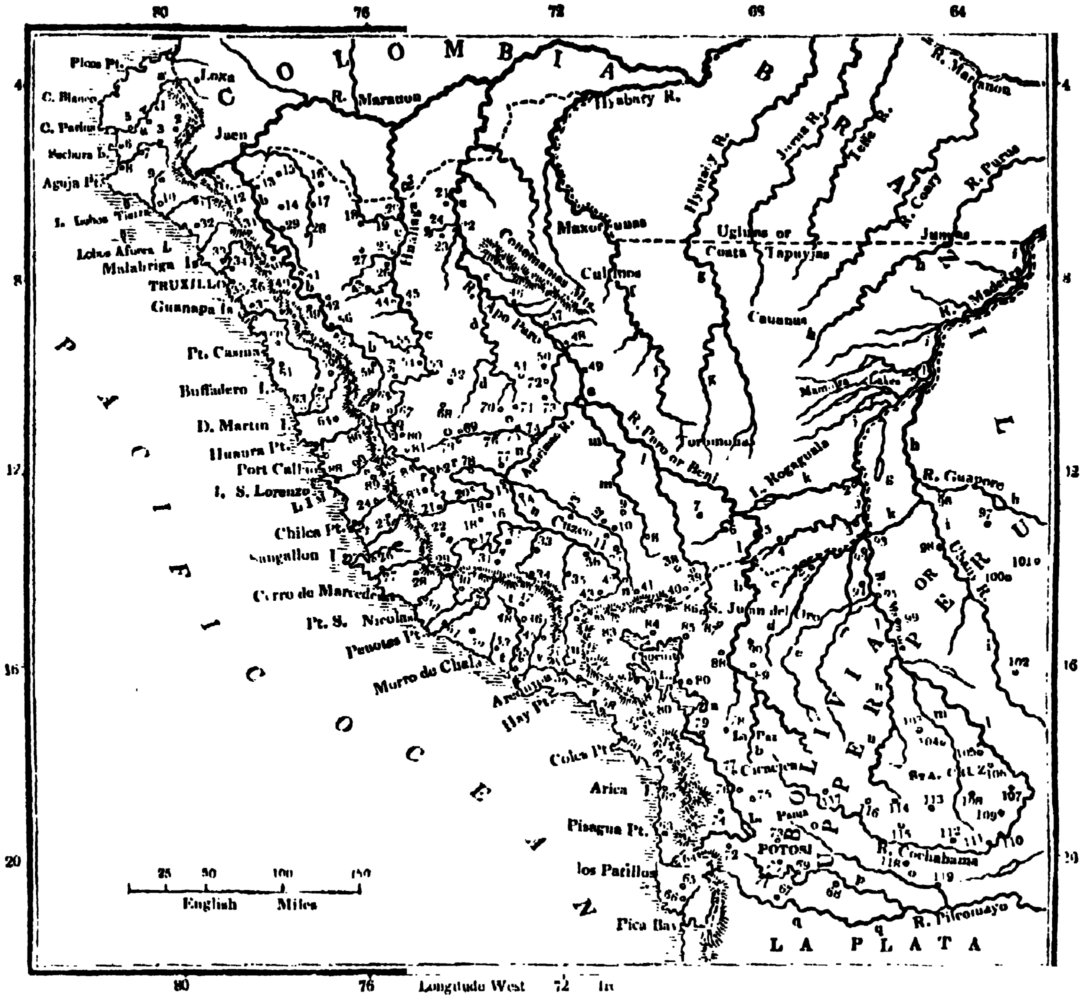


Fig. 1002. MAP OF PERU AND BOLIVIA.

References to the Map of Peru and Bolivia.

NORTH PART.
1. Quiroz
2 Gualtaquillo
3. Tapetera
4. Pelingara
5. Amotape
6. Payta
7. Piura
8. Sechura
9. Olmos
10. Ilimos
11. Callache
12. Micuipampa
13. Balzas
14. Uchuncha
15. Guispi
16. Chachapoyas
17. Levanto
18. Moyobamba
19. Lamas
20. Caimbasa
21. Panos
22. S. Barbara
23. S. Domingo
24. S. Francisco
25. Pachiza
26. Buenaventura
27. Pajaten
28. Lemnebamba
29. Panan
30. Huamachuco
31. Caxamarca
32. Saona
33. Ascopa
34. Chicama
35. Truxillo
36. Santiago
37. Guamanzano
38. Huara
39. Piscobamba
40. Quiches
41. Caxamarquilla
42. Huaraz
43. Mixiolo
44. Pampahomoto
45. Uchiza
46. S. Miguel
47. Amalmacas
48. Camariniguas
49. Pichobos
50. Camarasqui
51. Capolequi
52. Pozuzo
53. Muna
54. Cuchoro
55. Monzon
56. Huarachuco
57. Piscobamba
58. Panos
59. Caxabamba
60. Pampas
61. Cotaparazzo
62. Ocros
63. Canchas
64. Churim
65. Lauricocha
66. Huanuco
67. Pasco
68. Huancabamba
69. Quimiri
70. Sabirosqui
71. Tampianique
72. Tiguanasqui
73. Aporeguiaqui
74. Jesus Maria
75. Autes
76. Pichano
77. Parva
78. Sanabamba
79. Callao
80. Reyes
81. Tarma
82. Ocopa
83. Chongos
84. Jauja
85. Taccha
86. Centa
87. Chancay
88. Lima
89. Guarochiri
90. S. Pedro.

SOUTH PART.
1 S. Josa
2. La Exaltacion de la Cruz
3. S. Anna
4. S. Pablo
5. Pablo de los Reyes
6. Tumupasa
7. S. Jose
8. Pancartambo
9. Lares
10. Zamora
11. Cuzco
12. Urubamba
13. Vilcabamba
14. Intateo
15. Mayapo
16. Anco
17. Cungallo
18. Huamanga
19. Guanta
20. Coris
21. Guancavolica
22. Lirius
23. S. Cruz
24. S. Domas
25. Canneto
26. Pisco
27. S. Geromodelca
28. Laramate
29. Sascamarca
30. S. Juan
31. Payco
32. Andaguaylas
33. Abancay
34. Chalbuanca
35. Mamara
36. Tambobamba
37. Urcos
38. Ayapota
39. Aporoma
40. Sandia
41. Sicuani
42. Tinta
43. Coparaquo
44. Pedro de Calomo
45. Alta
46. Chaucalla
47. Para
48. Pauza
49. Para y Sanchos
50. Ingenio
51. Jaqui
52. Maturani
53. Caravelli
54. Cumana
55. Aplac
56. Arequipa
57. Pocsi
58. Chule
59. Moquehoa
60. Ilo
61. Tacua
62. Arica
63. Tana
64. Tarapaca
65. Iquique
66. Pica.

Rivers and Lakes.
a Chira, R.
b Lauricocha, R.
c Huallaga, R.
d Pachitea, R.
e Apo Paro, R.
f Yabary, R.
g Hyutahy, R.
h Purus, R.
i Madeira, R.
k Exaltacion, R.
l Paro, or Beni, R.
m Yambari, R.
n Apurimac, R.
o Pereno, R.
p Lauricocha Lake
q Chinchaycocha, L.
r Mantaro, R.
s Pampas, R.
t Oconna, R.
u Villano Lake
v Quilca Lake.

BOLIVIA, or UPPER PERU.
67. Pancocha
68. Turuchipa
69. Cayza
70. Mana
71. Yura
72. Curahaura de Carangas
73. Potosi
74. Calapa
75. Oruro
76. Panduro
77. Chicasica
78. La Paz
79. Machaca
80. Pomata
81. Chucuito
82. Concepcion de Puno
83. Nicasio
84. Asangaro
85. Huancane
86. S. Juan del Oro
87. Apolobamba, o la Concepcion
88. Zarata
89. Challana
90. S. Francisco
91. S. Borja
92. S. Pedro Nuevo
93. S. Pedro
94. S. Ignacio
95. S. Trinidad de Pampas
96. S. Rosa
97. S. Miguel
98. S. Magdalena
99. Loreto
100. S. Joachim
101. S. Martin
102. S. Xavier
103. S. Jose de Chiquitos
104. Puerto Gores
105. Colacu
106. Santa Cruz
107. Paurito
108. Samaipata
109. Pira
110. Cabeza
111. Abapo
112. Jesus de los Montes Claros
113. Chilon
114. Totora
115. Tomina
116. Aguille
117. Oropesa
118. Pomabamba
119. Prezidio.

Rivers and Lakes.
a Chucuito Lake
b Paro, or Beni, R.
c Mamqui, R.
d Cobitu, R.
e Apure, R.
f Mamore Chico R.
g Imatucara
h Guapore
i Ubany, R.
k S. Salvador, R.
l Mamore, R.
m Flores, R.
n Matavones, R.
o Cachimayo, R.
p Pilcomayo, R.
q Colagayata, R.

even with the nearer territories of Cordova and Tucumán, will still more vainly seek to comprehend within its limits the domain of Potosi. Under these views, we have determined to consider Upper Peru as Peru, and restore to that country the districts which seem thus naturally to belong to it.

Sect. I.—*General Outline and Aspect.*

The boundaries of Peru are on the west the Pacific, forming a long line of coast between 4° and 25° of S. lat., which, by its windings and its oblique direction from northwest to south-east, probably exceeds 2000 miles in extent. On the north, the boundary is formed by a very winding line drawn from the sources of the Javari in a southwesterly direction to about the 7th degree of S. lat., and afterwards ascending by the course of the Tumbez to nearly 5° S. lat. On the east, Peru is separated from Brazil by lines very vaguely drawn through barbarous regions which cannot very properly be said to belong either to one or the other. It is carried, generally speaking, parallel to the coast, sloping like it to the south-east, ranging from 58° to 72° long., and extending from 4° to 22° S. lat. At first, the Javari, for some space above its junction with the Amazons; afterwards, the upper part of the Madera; lastly, a portion of the upper La Plata; form grand natural limits. On the south, the general boundary is formed by a line drawn from the Pilcomayo in about 22° S. lat. westerly, to the Casabindo, whose southwesterly course it follows to its sources, and continuing thence in the same direction to the Salado, down which it extends to the sea in about 25° S. lat. Peru will thus be about 1500 miles in length, and 700 in breadth.

The surface of this extensive territory is of the boldest and most varied description. It is crossed, and in a great measure covered, by the Andes, in their greatest extent and loftiest height. Humboldt, who has traced with such care the line of these mountains, finds them separating, about 19° or 20° S. lat., into two parallel chains, which enclose an extended and lofty table-land, including Bolivia, or Upper Peru, and partly filled with the immense lake of Titicaca. Between 14° and 15° these chains unite, and near their junction is situated the ancient capital of Cuzco. It is remarkable that the Andes, which in their course from Cape Horn have hitherto proceeded almost due north, here suddenly change their direction to north-west, and for a short time almost due west; while the coast, as along all this side of South America, follows every winding of the mountain chain, to which it continues always strictly parallel. Around Cuzco is accumulated a vast knot or mass of mountains, about three times the extent of Switzerland. The Cordillera then again separates, and another table-land appears only about half the extent of the former, but extremely elevated, being in some places 10,000 feet high. It then unites in another knot or mass, which contains the rich mines of Pasco, those of Potosi being placed at the opposite extremity of the first table-land. It then opens into three parallel chains, of which the most eastern is only a small lateral branch, bordering on the vast plains called the Pampas del Sacramento. Very high summits occur in the western chain facing the Pacific, and are seen in lofty succession from the cities of the coast. The last is in 8° S. lat., after which there does not occur one for 350 miles. But the mightiest part of the range is that already mentioned as extending over Bolivia, or Upper Peru. It is both the most spacious and the highest of all the branches of the Andes. It contains the stupendous peaks of Sorata and Illimani, the highest in the New World; and which rise, the former to the height of 25,400 and the latter of 24,350 above the level of the sea. It encloses an extensive table-land, scarcely anywhere less than 12,000 feet high, and peculiarly distinguished for the great altitude at which full cultivation, large towns, and even cities, are situated. In this lofty district also are found the rich mines of Potosi. Between the Andes and the sea extends the plain of Peru, where the chief Spanish settlements have been formed. It is from 50 to 100 miles in breadth, partly covered with branches from the Andes, but towards the sea forming a flat expanse of land, often white with saline incrustations, and absolutely a desert, unless where one of the broad streams, or rather torrents, from the mountains can be directed over it.

The rivers of Western Peru can scarcely be ranked as such, being merely torrents, which descend from the Andes, and roll along its narrow plain to the Pacific. The interior, however, is bordered, and partly traversed, by the greatest rivers in the world. The Amazons commences its unrivalled course among the Peruvian Andes. One branch, the Tunguragua, rises from two lakes amid the mountains of Pasco, traverses the whole of the last-mentioned table plain, receiving all the waters of its boundary mountains. After following this course for about 500 miles, it forces its way through rocks and straits across the barrier of the Cordilleras, turns its direction eastward, and reaches that immense plain through which it pursues its course across America to the Atlantic. The greater river Beni, according to some accounts, rises in the Sierra de Cochabamba, in 18° S. lat., to the north of Oropesa, and rolls along the back of the Andes, draining all their eastern waters, and in 11° S. receives the Apurimac, forming with it the Ucayali, the largest branch of the Amazons. Its entire course is about 1000 miles. But other accounts represent the Beni as rising near Cuzco; in this case the Apurimac, which rises to the west of lake Titicaca, is the principal stream. On the east, Peru, as already observed, has for its boundary part of the courses of the

Madera and the Plata; but these belong more properly to Brazil and Paraguay. In the south the Pilcomayo falls into the Plata, having passed through the richest mineral region in the world.

Lakes in South America are not very grand or characteristic features; yet Peru contains one enclosed in its greatest table-land, the Lake of Titicaca, which, though twenty times the size of the Lake of Geneva, cannot come into any competition with the mighty inland seas of Canada.

Sect. II.—*Natural Geography.*

Subsect. 1.—*Geology.*

The great chain of Peruvian Andes is divided between 14° and 20° of S. lat., into two longitudinal branches, which are separated from each other by a wide valley, or rather by a *plateau*, the surface of which is elevated 2033 toises above the sea. The northern extremity of this table includes the Lake Titicaca. The western chain separates the bed of the Lake Titicaca and the valley of Desaguadero from the shores of the South Sea, and it presents at least sixteen volcanoes in a state of activity. Its geognostic constitution is essentially volcanic, the volcanic rocks being chiefly trachytes, obsidian, and tufas, while the eastern chain consists entirely of mountains of secondary and transition formation, of mica slate, syenite, porphyry, red sandstone, marl containing rock-salt, gypsum, and oolitic limestone. From this eastern chain issue a great number of torrents, which empty into the Rio Beni, and which carry down with them auriferous sand. The mines of Peru have been long celebrated, and of these the most valuable are those of gold, silver, and mercury. The gold is obtained at present at Pataz and Huilies in Taoma; and from some veins of quartz traversing primitive rocks. There are besides gold washings on the banks of the Marañon Alto, and on many of the rapid mountain torrents. The quantity of gold coined in the royal mint of Lima between the years 1791 and 1801, amounted to 3450 marks Spanish. In Peru nearly the whole silver is extracted from the great mines of Yauricocha, or Lauricocha (commonly called mines of Pasco, and the Cerro di Bombon), and those of Gualgayoc, or Chota, and Huantajaya. The most valuable of these mines are those of Pasco, situated in the high table-land, 13,000 feet above the level of the sea, which afford annually about 2,000,000 dollars. The mines of Chota were discovered in 1771 by a Spaniard; but the Peruvians worked, in the time of the Incas, some silver mines near Micuipampa. Great wealth has been obtained, even at the surface, both in the mountain of Gualgayoc, which rises like a fortified castle in the midst of the plain, and at Fuentestiana, at Cormolache, and at La Pampa de Navar. In this last plain, for more than half a league, wherever the turf has been removed, sulphuretted silver has been extracted, and filaments of native silver adhere to the roots of the grasses. Frequently the silver is found in masses, as if melted portions of this metal had been poured upon a very soft clay. All the mines comprehended under the name of mines of Gualgayoc, on the partido of Chota, furnished to the provincial treasury of Truxillo, between the month of April, 1774, and the month of October, 1802, 1,189,456 lbs. troy of silver, or at an average of 44,095 lbs. troy annually. The mines of Huantajaya, surrounded with beds of rock salt, are particularly celebrated on account of the great masses of native silver which they contain; and they furnish annually from 45,942 to 52,505 lbs. troy of silver. The conchoidal horn ore, or muriate of silver, silver glance, lead glance, quartz, calc spar, accompany the native silver. These mines are situated in the partido of Arica, near the small town of Yquique, in a desert destitute of water.

Cinnabar, or sulphuret of mercury, the common ore of mercury, occurs in Guanca-Velica, a district of Peru, at no great distance south-west of Lima. It appears that the discovery of this great mercury mine goes back to a very remote period, since the Incas made use of cinnabar in painting themselves. Mercury is found in the environs of the town of Guanca-Velica, in beds and veins. In the great mine of Santa Barbara, the cinnabar is contained in a bed of quartzy sandstone of nearly 400 yards in thickness; but the metalliferous mass is not more than 70 yards thick. Besides the cinnabar contained in the sandstone of Santa Barbara, there is also some in this same part of the Cordilleras, in small veins, in alpine limestone. Tin and lead mines are worked at Chayanza and Paryas; there are considerable deposits of copper at Aroa, yet the inhabitants of Peru import that metal from Chili.

Upper Peru, or Bolivia.—This state is interesting from the variety, extent, and value of the minerals it affords. The mountainous regions are principally composed of porphyry, and in the same chain there are volcanic mountains, some of which are in a state of activity. Gold is found in considerable quantity on the mountainous districts, but hitherto it has not been very extensively mined. It occurs associated with antimony, silver, and other minerals, and sometimes in masses of considerable size: the largest mass on record is one which was detached by means of lightning from a mountain near to La Paz, and for which 11,269 dollars were paid. But by far the greater part of the gold procured in Bolivia is obtained by washing the sands of rivers: the most productive of these *cavaderos*, or gold washings, is that of Tipuani. Silver has hitherto been the principal metallic production of Bolivia, and has conferred on it its great celebrity. In the rich mountain of Potosi alone, according to records kept at Potosi, of the *quintas*, or royal duties, from the year 1745 to the year 1800, no less than 823,950,509 dollars were coined during that period; and if to this be added the amount of the preceding years, not included, and that obtained in a clandestine manner, without the payment of the customary dues, not less than 1,647,901,018 dollars have been obtained from this source alone in the space of 255 years. The silver mines of Portugalete, in the province of Chicas, have acquired celebrity on account of the richness as well as the quantity of their ores, which yield from sixty to eighty marks of silver to the caxon, while those of Potosi only afford about ten marks from the same quantity of ore. At La Plata, Porco, and Lipes, there are silver mines, especially one in the latter province, celebrated for the purity of its ores, which were formerly in great repute, but since eclipsed by the more important ones of Potosi and of other places. In Carangas there are rich silver mines; and formerly the silver mines of Oruro were very productive

Subsect. 2.—*Botany.*

The country is a complete desert from Copiapo, along the whole coast of Peru, to the mouth of the Guayaquil river, intersected only by valleys, which are twenty or thirty leagues apart. A few patches of Tillandsiæ and Cacti are almost the only vegetation seen, except for a short time in winter, when bulbous plants of great beauty appear, wherever there is soil for them to fix their roots: but they quickly vanish when the mist disappears, and the sun regains its power.

Though the surrounding country be so cheerless, the valleys of Peru enjoy a delicious climate, the cool south breeze moderating, though it hardly obscures, the sun's rays. It is not, however, always favourable to health; intermittent fevers attacking almost all those who reside on the coast of Peru. From the perpetual spring that prevails in the valleys, vegetation is most luxuriant; almost every cultivated plant, from barley to rice and sugar-cane, coming to perfection, the climate permitting both planting and reaping at every day of the year. The traveller, on entering one of these valleys, is struck by the sudden transition from the sterility of the desert to the bright verdure of the irrigated land: the water channels are, of course, carried near the hills, to ensure more fall of water; and every inch of ground within these limits is covered with luxuriant vegetation; so that hills that are parched and barren beyond these bounds, within them are clothed with a beautiful verdure. Few trees or shrubs remain in these valleys; still, for the purposes of fuel, some are left, as Willow, Manglillo (*Manglilla Jussieui*), and Huarango (an *Acacia*). Among the shrubs that grow near Lima are various species of Cordia, Buddlea, Heliotropium, Lantana, Lycium, and Jussieua. East of the Andes, again, there are considerable forests, an extraordinary difference existing between the eastern and western parts of Peru. Towards the coast, the climate is temperate, the rivers small and few, and the hills bare of wood. Wild animals are very rare: there are few birds, and no noxious reptiles. The country, its climate and productions, appear to belong to the temperate zone. But if we cross the Cordillera, and descend to the east, we find lofty trees, wild animals, and venomous snakes: numberless birds of splendid plumage inhabit the trees, and alligators and tortoises abound in the Marañon and its numerous tributary streams. Here are all the productions of a moist tropical climate; yet the two districts are in the same latitude, only separated by the Cordillera.

Between Lima and Pasco, a distance of about forty-five leagues, many interesting plants occur, especially the bright golden Amancaes (*Narcissus Amancaes* of Ruiz and Pavon), which is almost confined to the neighbourhood of the former place. This is a favourite flower with the inhabitants of Lima, who annually make a promenade to the spot where it most abounds, on St. John's day, and return home decked with its brilliant blossoms. Tillandsiæ, Mutisiæ, Melocacti, Cacti, and Schinus Molle, also grow in this district, the latter plant affording a resin which is much valued as an application to bruises. The celebrated Yellow Potato of Peru (*Papas amarillas*) is cultivated at Huamantanga. It is deemed superior to every other variety, but is an indifferent bearer, and does not succeed near the coast. This may be considered as the native country of that valuable and widely diffused plant, the Potato (*fig.* 1003.), which is very common about Valparaiso, inhabiting steep rocky places on the cliffs near the sea, and always bearing pure white blossoms free from the purple hue so common in the cultivated varieties. In the immediate neighbourhood of Pasco, that celebrated spot from which so much wealth has issued, few plants are to be found, those which most frequently occur being a few Gentians, Lupinus nubigenus, and some Compositæ. The pappus of Werneria rigida is used as tinder, and the fruit of Alstrœmeria dulcis is eaten by the children.

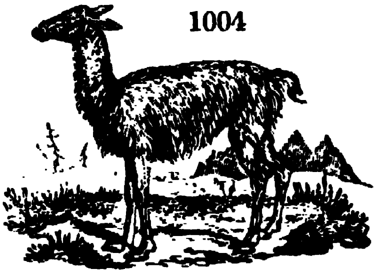
1003

Potato.

Subsect. 3.—*Zoology.*

The Zoology is as much unknown as that of Colombia: the researches of the accomplished travellers Humboldt and Bonpland, having been more directed to plants than to animals. Our notices must consequently be very brief, and confined to the three most celebrated animals of the Peruvian Andes, the Lama, the Vicugna, and the Condor.

1004

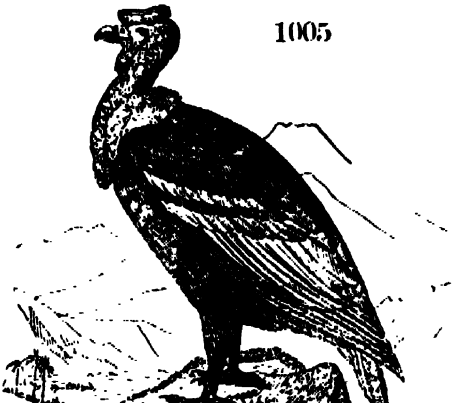


Lama.

The Lama (*Camelus Glama* L.) (*fig.* 1004.) reminds the spectator of a very small camel, in which genus it has been placed by Linnæus. It has been supposed by Baron Humboldt, that the wild lamas are only individuals strayed from the domestic breed: but if this is correct, where was the animal originally brought from? The hair is long, soft, and elastic on the body; but close and short on the head and limbs. In manners, the lama is gentle and confiding, without showing much vivacity; its carriage is graceful, and even beautiful, when the pure white of the throat and breast is seen in front. It has not very great strength, but is trained to carry burdens.

The Vicugna (*Camelus Vicugna* L.) is smaller than the lama, but is celebrated for the superior fineness of its wool. It inhabits the highest points of the southern Andes, and exhibits great liveliness. The manner of taking this animal, so valuable for its fleece, is said to be as follows:—Ropes, to which bunches of feathers have been attached, are first stretched across the mountain passes, near their haunts; the animals are then hunted and driven in these directions. On reaching these barriers, the lamas stop in terror at the fluttering of the feathers, and wait to be slain or noosed by the Indians; unless, indeed, an alpaco (another species, not unlike the lama) happens to be among them. This animal, not so easily intimidated, will immediately leap over, and then the whole herd will instantly follow the example.

1005



Condor.

The history of the Condor (*Vultur gryphus* L.) (*fig.* 1005.) was long enveloped in fable, until the publication of M. Humboldt's researches. It is one of the largest of terrestrial birds; but its size appears much greater, when seen by itself on a rocky peak, than it really is: for, when perched, it does not stand more than three feet high. It is peculiar to the Andes, and seems to prefer the highest points, bordering the limits of perpetual snow. Although they never attack man, yet they exhibit no fear at his approach: their food and habits are very similar to those of the bearded vulture of Europe. Two condors will dart upon a deer, or even a heifer, pursuing and wounding it for a long time, by their beaks and talons, until their victim sinks. They then immediately seize its tongue, and tear out its eyes. In Quito, it is said that the mischief done to cattle, by these formidable birds, is immense: their general food, however, is carrion or dead game. The skin of the condor is so thickly clothed with down and feathers, that it is capable of withstanding musket-balls, when not closely fired; and the bird is killed with great difficulty.

Sect. III.—*Historical Geography.*

Peru was one of the two monarchies which, at the invasion of the Spaniards, had attained to a degree of refinement far above that infant and savage state of society in which most of the rest of the American continent was plunged. It was also remarkable from the contrast of the character of its civilisation with that of the Mexicans. Instead of the fierce and lofty spirit, the bloody wars, the uncouth deities, and ferocious rites of that singular people, the Peruvians were united in tranquil subjection to a mild superstition, which represented to them their inca as the child of the sun, that supreme source of light and power, exercising in his name a beneficent sway, to which their unreserved submission was due. However fable may be mixed with truth in the tale of the first descent of Manco Capac and his spouse, from the heights of the Andes, there can be no fable in the story of the greatness of the empire to which their posterity attained. It comprehended not only the vast region we are now describing, but the territory of Quito, which, though united by Spain to New

Grenada, is covered with monuments of the empire of the Incas. Complete order and obedience were established in this dominion of more than 2000 miles in length. The land was carefully cultivated. As moisture was the chief want, all the rivers were diverted into *aquecas*, or irrigating canals; mountains were formed into terraces to receive them, and walls built to prevent the water from escaping; and thus large tracts were rendered productive, which, under European management, have relapsed into the state of desert. The grand imperial road, extending for 1500 miles, from Cuzco to Quito, though only eighteen feet broad, and not fitted for carriages, which, indeed, did not exist in Peru, was yet rendered a wonderful work by the natural obstacles which had been overcome, and the flying bridges by which a passage had been formed over the deep ravines. Robertson conceived that ancient Peru contained one city only, that of Cuzco, and that all the rest of the population was rural; but this opinion is at variance with the extensive remains observed by recent travellers. The ancient structures of Peru have nothing of that lofty character, to which those of the Mexicans attained. Perhaps they were thus formed for security in a country so subject to earthquakes. The walls, composed of immense blocks of stone, seldom rise to more than twelve feet in height; but they enclose immense spaces of ground, and are divided into an infinity of apartments; insomuch that one, observed by a late traveller, near Caxamarca, appeared capable of containing 5000 men. To the Mexican paintings and hieroglyphics, there is nothing analogous among the Peruvians, who, however, had their *quipos*, or strings, on which the colours represented the objects, and the knots their number. This contrivance, first used apparently for purposes of calculation, was afterwards employed as a record of events; though it cannot be said to be so effective as the Mexican pictures. Amid the mildness of all their rites and habits, the Peruvians retained one practice marked by the deepest barbarism. On the death of their Inca, or even of any great chief, a number of his vassals, often very considerable, were interred along with him. There were also deposited a portion of his wealth, and many precious and useful articles, destined for his use in the other world. The opening of these *huacas*, or tombs, has often proved a great prize to European adventurers; and in one instance there was found a treasure in gold amounting to no less than 150,000*l*.

Spain, through the daring enterprise of a small band of adventurers, whose deeds we willingly decline recounting in detail, acquired, by a *coup de main*, this vast and rich empire. Peru then became the centre of the wealth and power of Spain in South America. An extensive dismemberment, indeed, took place, by the erection of the viceroyalty of Buenos Ayres, and the transference to it of the richest mining districts; yet Lima continued not the less to be the capital of all the southern states.

The spirit of revolution and independence, which was kindled with such force by the French usurpations in the mother country, was much less strongly felt in Peru than in the less opulent seats of Spanish power. All the highest functionaries, and the richest merchants, were settled in Lima, and inspired a tone of feeling decidedly favourable to the mother-country. So deep was this feeling, that Mr. Stephenson has heard affectionate parents declare, that they could not feel the same attachment to their children as if they had been born in Europe, and that, if they could suspect them of joining the American cause, they would murder them in their beds. Peru, therefore, not only remained for some time firmly attached to the Spanish cause, but made great exertions to suppress the opposite spirit in the neighbouring provinces; accompanied with cruelties which caused a general disgust and indignation, and gradually generated a feeling hostile to it. An external force, therefore, was necessary to give effect to the new system in Lima. It was not till the year 1820, more than ten years after the first revolution, that San Martin sailed with an expedition from Chili, landed at Pisco, and advanced upon Lima, which the viceroy La Serna abandoned to him without resistance. The triumph of the patriots seemed complete. But the misconduct and disunion of their chiefs, and the misfortunes of the army which they sent into Upper Peru, gave an unfavourable turn to affairs, and enabled the Spanish chiefs to regain possession of the capital. Bolivar, however, now came forward, and, having finally achieved the deliverance of Colombia, considered it essential to the general cause of American independence to destroy this last strong-hold of resistance. He marched down upon Lima, and La Serna again gave way: when the war was transferred to the defiles of Upper Peru, the patriot force was compelled to a disastrous retreat, in which it almost entirely mouldered away. La Serna was again master of Lima, which remained for some time in his hands; but Bolivar having called forth all the strength of Colombia, and the royalists being weakened by the defection of Olañeta, he was again obliged to retreat without a struggle. Yet the royalists in Upper Peru had once more rallied, and seemed on the point of regaining the ascendency, when General Sucre, by a bold and sudden attack, on the 9th December, 1824, gained a complete victory on the plains of Ayacucho: the whole Spanish army surrendered; its chiefs were conveyed to Spain; and the freedom of Upper and Lower Peru was to all appearance finally sealed.

Sect. IV.—*Political Geography.*

Peru, in consequence of its liberation, was formed into two separate republics: one, consisting of Lower Peru, considered now as Peru proper; and the other of Upper Peru, or Bolivia. It must be owned, however, that our information respecting the organisation and present state of these republics is very imperfect. Balbi states the revènue of Lower Peru at 1,250,000*l.*, its debt somewhat above 6,000,000*l.*, and its army at 7500. The revenue of Bolivia is stated at only 460,000*l.*, its debt 750,000*l.*

Sect. V.—*Productive Industry.*

Agriculture is not the branch on which the wealth of Peru in any great degree rests. The plain on the sea-coast is a sandy desert, and the sides of the mountains are steep and broken into ravines; while the parameras or table-lands at the summit of the Cordillera are rendered nearly unfit for cultivation by the extreme cold and the perpetual snow which covers them; so that it is almost solely through the neglected remains of the Indian terraces and irrigating canals that any of the elevated tracts are rendered very productive. Some of the valleys, also, and of the lands along the rivers, are extremely fertile. Maize is the staple grain and chief food of the natives, in the various forms of bread, puddings, porridge, and roasted grain. It is also made into a fermented liquor called *chica*, which is agreeable enough; but, unfortunately for the fastidious taste of Europeans, the Indian women consider it their duty carefully to chew it, as a means of fermentation. Some of the higher grounds are better fitted for barley; but for wheat, Peru is dependent upon the Chilian province of Concepcion. The sugar-cane is cultivated with decided success, though not on a very great scale. Fruits of every climate, from the successive slopes of the Cordillera, are poured down into the markets of Lima. The neighbourhood of Pisco is covered with vines, from the grapes of which are made 150,000 gallons of excellent brandy; but the wine of Peru possesses no merit. Ipecacuanha, balsams, medicinal plants, and valuable dye-woods may also be mentioned.

Manufactures are in a still less advanced state. In the mountain districts are made considerable quantities of coarse woollens, blankets, flannels, baize, and particularly *ponchos*, a loose riding cloak, generally worn throughout Spanish America, and sometimes made of great fineness. A few towns on the coast manufacture cottons. Goatskins are made into good cordovan. The Indians execute very fine filigree work in gold and silver, and their mats and other articles of furniture made from grass and rushes are very much admired. In general, however, the Peruvians look to Europe for a supply of all the finer manufactures.

The mines have been the source of the unrivalled wealth of Peru. These are seated in the inmost depth of the Andes, approached only by steep and perilous passes, and in mountains which reach the limit of perpetual snow. The silver mountain of Potosi, in Bolivia or Upper Peru, has no equal in the world. It rises to the height of 16,000 feet, is eighteen miles in circumference, and forms one entire mass of ore. It appears from the city dyed all over with metallic tints, green, orange, yellow, gray, and rose-colour. Though since the conquest upwards of 1,600,000,000 dollars have been drawn from it, the mountain is still only honey-combed, as it were, at the surface; ore still lies at a somewhat greater depth, and is in some places overflowed with water. Yet it has sunk into such a state of decay, that in the ten years ending 1829, the annual produce is not believed to have exceeded 330,000 dollars. But the present depressed state of the mine is chiefly owing to the late political convulsions, and the exhaustion of all the capital that was formerly employed. These are evils which probably a state of peace will remedy, though no arrangement to that effect has yet been made. A company from Buenos Ayres offered 2,500,000 dollars for the exclusive working; but several English agents coming out in eager competition for the same object, Bolivar sent the proposals to London. They reached that capital at the well-remembered moment of deep depression, and did not obtain even an offer. The Spaniards assert that there are 5000 mines in Potosi; but these mines are only *estacas*, or lots portioned out to individuals, of which, when Mr. Andrews visited the place in 1826, there were not quite 100 at work; yet these few yielded a good profit, and there was no want of labourers: hence he calculates that a capital of 100,000*l.* would yield 18,000*l.*, or, in allowing a third to pay the high salaries expected by the agents, 12,000*l.* This is exclusive of any advantage from the use of machinery, and any improvement in smelting, refining, and other processes, which have hitherto been performed in the rudest manner. The exhaustion of timber will, however, be a serious obstacle; for the reported discovery of a vein of coal is not confirmed by Mr. Andrews. The mines of Pasco are situated at a prodigious height, on the knot where the Andes lock into each other, more than 13,000 feet above the sea. They are chiefly in the mountain of Lauricocha, forming a bed of brown ironstone, about three miles long and one and a half broad; from every ton of which two or three marks of silver are extracted. These mines, before the revolution, yielded annually 131,000 lbs. troy of silver. By that convulsion their working has been entirely suspended. The house of Abadia, by which it was chiefly carried on, has been ruined; and the royalists, in revenge for the part taken by that house, destroyed all the costly machinery: the water, which always occurred at the depth of 400 feet, took full possession of the mine. It would cost now a very large sum to bring it again into a productive state, though it is still believed that the returns in such case would be great. There are mines also at Hualgayas in the province of Truxillo, and Huanlaya in that of Arequipa. All the Peruvian mines, however, are so much declined, that their produce, during the entire period, from 1819 to 1829, was under 4,500,000 dollars: The gold mines are found chiefly in the interior district of Tarma, bordering on the Amazon. The metal is partly obtained by the usual process of washing the earth impregnated by auriferous streams; but in some instances the gold is found embedded in veins of quartz rock. The mines of mercury are considered equally precious with those of silver, from its scarcity and its necessity in amalgamation. The discovery, therefore, of the mines of Guanca-Velica was of the greatest importance, and they yielded at one time an immense amount. The mountain, which is nearly 14,000 feet above the sea, being excavated into three successive galleries, and the props not having been made sufficient, a great mass fell in, and crushed the most valuable part of the works. Hence, even before the revolution, the produce had fallen to 15 cwt. The same district abounds with valuable mines of gold and silver, which, however, from the imperfect mode of working, were never very productive.

Commerce, during the late crisis, can scarcely be said to have had an existence in Peru; nevertheless we must describe what has been, as likely to exist again, when peace and security revive. The export trade rests almost entirely on gold and silver, with a little bark, cacao, cotton, sugar, copper and tin, vicugna wool, &c. The value which, before 1739, scarcely exceeded 2,000,000 dollars, had risen between 1785 and 1794 to 6,680,000. The imports consist of all the articles of European manufacture, except those coarse and common fabrics, which are produced in the country itself. Mr. Stephenson remarked, on entering a house in Lima, that almost every thing was English; the brass furniture, the window glass, the dimity hangings, the linen and cotton dresses of the females, the cloth coats of the men, the plates, knives, and forks on the table; even the iron pots and pans in the kitchen. From the peculiar state of society, in which European habits prevail without European industry, the market for foreign goods is here, as in the other American states, much more than in proportion to their wealth and population. Mr. Proctor even heard it calculated by a well-informed person, that Lima, under favourable circumstances, would receive a value not less than 2,000,000*l.* sterling. The most saleable articles are cotton goods of almost every kind; Manchester broad flannels, Irish linens and lawns, fine Scotch cambrics and table linen; silks, crimson damask, and particularly narrow ribands. Thick broadcloth finds a market in the interior. Glass, earthenware, and hardware are also in regular demand. Toys need not be sent, as the gold and gems of the country are preferred. Hats, with leather, and every thing made of it, are so well manufactured in the country, as to render foreign supplies superfluous. A good deal of Peruvian produce is imported at second-hand from Buenos Ayres and Valparaiso.

The roads in Peru, as in other parts of South America, consist in general only of the foot tracks of the horses, or more frequently mules, by which they are trod. No carriage is attempted to be driven; but the effeminate traveller sometimes establishes on the back of the mule, a species of box or litter, the motion of which, however, is very unpleasant. It is only in the dreadful steeps of the Andes, that human art has been employed to form a path along the sides of precipices, to cut one through rocks, and even to form them into steeps; but these works, it is probable, were performed by the native Peruvians, and not by their European conquerors.

SECT. VI.—*Civil and Social State.*

The population of Lower Peru, according to two enumerations made about 1803, amounted to 1,076,000. Of these there were 136,000 Spaniards, 609,000 Indians, 244,000 mestizos, 41,000 free negroes, and 40,000 negro slaves. Humboldt has assumed 1,400,000 as the actual number; perhaps rather hastily; for there cannot, we suspect, under the circumstances of the last twenty years, have been any increase. According to statements obtained by Mr. Brackenridge at Buenos Ayres, Upper Peru, called there the Audiencia of Charcas, contained 1,716,000; of which 510,000 were Europeans and mixed races, 986,000 Indians, and 220,000 not distinguished. We cannot help suspecting this statement to be a little exaggerated, especially as to the first head; but we have no other. Peru, then, will contain in all 2,792,000 inhabitants.

The character of the Creoles, or native Spaniards, of Peru, is painted under colours somewhat less flattering than that of the same class in almost any of the other states. The preponderance of the European Spaniards appears to have been more overwhelming than elsewhere. This political degradation, with the general diffusion of wealth and facility of subsistence, seems to have been the chief cause of the enervated state into which the natives of Lima had sunk. The male inhabitants are considered by Mr. Proctor to be almost too insignificant a race to be worthy of mention; destitute of all energy both mental and bodily;

so that, notwithstanding the extensive trade, there are not above two or three mercantile houses carried on by native Peruvians; all the rest are conducted by foreigners, many of whom are from Chili and Buenos Ayres. The ladies act a much more conspicuous part; though not always, we are sorry to say, altogether to their credit. From their earliest years they are led to consider themselves as the objects of admiration and homage, and a system of the most decided coquetry, or at least flirtation, is established. Even Mr. Stevenson, their champion, allows it to be common for the mother to screen her advancing years by making her daughters address her as a sister. Their intrigues are greatly aided by a dress originally intended to mark reserve and seclusion; the saya, a light elastic gown fitted close to the frame, being covered with the manto, a large loose cloak of black silk gauze, which is wrapped round even the face (*fig.* 1006.). Under this disguise, they sally forth, and amuse themselves by addressing their friends without being known by them; mixing with the crowd to view whatever exhibition may be going forward; and, it is too likely, in still more culpable indiscretions. Gaming prevails also among both sexes to a destructive extent; and families are extremely ill managed. Yet the Peruvians are courteous, humane, hospitable, and generous. In the country, these amiable qualities are combined with equal mirth, but a much greater degree of simplicity.

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Female Costume of Lima.

The Indians, or native Peruvians, are still, over all Peru, the most numerous class. They present nothing of that fierce aspect, and that untamed and ferocious character, which render the Caribs, the Brazilians, and the Indians of Canada, so terrible to European settlers. They have small features, little feet, well-turned limbs, sleek, coarse, black hair, and scarcely any beard. Ulloa and Bouguer have represented them as sunk in apathy and insensibility; as beings to whom good and evil fortune, honour or dishonour, life or death, appeared to be all alike. But though a certain tameness of character may have been generated by their former despotism, it appears that the shy, reserved, and gloomy aspect which they present to Europeans has arisen chiefly from the experience of oppression and accumulated wrongs; and when it is often said that no expedient can rouse them from their gross ignorance, Mr. Stevenson triumphantly asks, what expedient has been employed for that purpose! The Indians assuredly live in very miserable huts; and they show a wonderful patience under the greatest privations; yet they do not neglect the means of improving their condition: they are industrious cultivators, and manufacture often very beautiful fabrics from very simple materials. Several of them have distinguished themselves in the pulpit and at the bar; and, when completely at their ease, they are found to talk with even an excess of fluency. Chastity, especially in the married state, is a national virtue; but they are apt to indulge in too deep potations of chica, their favourite liquor. They have been converted to something which they call Christianity; that is, they celebrate the festivals of the church by drinking enormous quantities of chica, dancing through the streets to the sound of the pipe, with bells fastened to their legs, and cudgels, which they apply to any who attempt to obstruct their progress; in which devout exercises a whole week is sometimes consumed. They have, in a good measure, wiped off the reproach of cowardice, by late achievements in the cause of Old Spain. Yet they retain the deepest and most mournful recollection of the Inca, and in all the remote districts annually celebrate his death by a sort of rude tragedy, accompanied by the most melting strains of natural music.

The mixed races are more numerous than the pure Spaniards, though less so than the Indians. They consist of the usual multiplied branches from the three original stocks of Europeans, Indians, and Negroes. According to Mr. Stevenson, the mestizo is strong, swarthy, with little beard, laborious, and well disposed; the mulatto is less robust, but is acute, talkative, imaginative, fond of dress and parade. In a public disputation at the university, a mulatto in the gallery will often help the embarrassed student out with his syllogism. The zambo (mulatto and negro) is violent, morose, and stubborn, prone to many vices, and guilty of more robberies and murders than any other class, only excepting the Chinos (negro-Indian), said to be the very worst mixed breed in existence, ugly, lazy, stupid, and cruel.

The religion, as in every country over which Spain ever reigned, is exclusively Catholic. Lima is the seat of an archbishop, who had for suffragans the bishops of Cuzco, of Panama, two in Chili, and six in the south of Colombia; but this extensive jurisdiction must now be curtailed. Immense wealth has been accumulated by several of the convents from pious donations. Some of the clergy are respectable, but a great proportion of the friars are said to lead very dissolute lives, and to promote rather than check the general licentiousness. Although no toleration is admitted, yet in 1812 the inquisition was abolished. An English traveller then resident saw its dungeons broken open, and their secrets disclosed: racks, pillories, scourges of knotted cord, tormentors of netted wire, with points projecting inward; and gagging instruments formed of human bone. There was a crucifix with a head capable of making a movement, which, being produced by a person from behind, had the appearance of being miraculous.

Literature is not in so utterly depressed a state at Lima as in the other cities to the south of the Isthmus of Darien. Besides several colleges, there is a highly endowed university, founded in 1549, on the model of that of Salamanca. The professors do not deliver lectures; but examinations and disputations are maintained with considerable diligence. A number of scholars have been produced, who, in America, are accounted eminent. The Mercurio Peruano, a periodical work, carried on before the revolution, contained a good deal of valuable information. The emancipation has, as might be expected, been accompanied with extensive arrangements for diffusing knowledge among the body of the people.

The amusements consist of the theatre, which, at Lima, is tolerably conducted; bull-fights, cock-fights, and religious processions; and the rage for public diversions, as already observed, is extreme. In regard to dress, the chief distinction seems to consist in the saya and manto, worn by the ladies, and already described. The favourite dishes are the well-known olla podrida, and the chupe, a mixture of fish, eggs, cheese, potatoes, and onions, eaten by the guests with spoons from a common dish in the middle of the table. The cigar is almost constantly in every one's mouth.

Sect. VII.—*Local Geography.*

The extensive region which once bore the common name of Peru comprises at present two independent states; the republic of Peru, and the republic of Bolivia.

Subsect. 1.—*Peru.*

The republic of Peru, comprising the former Spanish viceroyalty of Peru, lies chiefly between 67° and 82° W. lon., and 18° and 4° S. lat., but on the south, a narrow strip projects to nearly 22° S. lat., and on the north, a corner of its territory on the Gulf of Guayaquil approaches to within three degrees of the equator. It has a superficial extent of about 500,000 square miles.

The republic is divided into seven departments, which are subdivided into provinces.

Departments.	Capitals.
Libertad	Truxillo
Lima	Lima
Junin	Guanuco
Cuzco	Cuzco
Ayacucho	Guamanga
Puno	Puno
Arequipa	Arequipa.

Lima (*figs.* 1007 and 1008.), next to Mexico the most splendid city of Spanish America, is situated about six miles in the interior, from its port of Callao. It is of a form nearly semicircular; two miles long, and one and a half broad; the base being washed by the river Limac. It is surrounded by a wall of brick a[illegible] c[illegible] poses of police. The houses run in straight lines, dividing the city into a multitude of squares of various forms and dimensions. They are built wholly of timber, cane, and unburnt brick, and are seldom more than one, scarcely ever more than two stories high; but those of the rich are surrounded by porticoes or open courts, enclosed by high walls and gates, which being, as well as the interior, painted with figures as large as life, and adorned with wooden pillars, coloured in imitation of stone, make a very gay appearance. The plaza, or principal square, is, as in other Spanish cities, surrounded by all the finest edifices. The viceroy's palace, however, is an old plastered and unsightly structure, of a reddish colour, the lowest story of which is strangely occupied by a row of mean shops, above which is a gallery open to the public. The apartments now employed as government offices display some vestiges of decayed magnificence. The cathedral is an elegant building, with a stone front, and two towers of considerable height; and the interior, particularly the great altar, is, or at least was, excessively rich. Close to it is the archbishop's palace, elegant, adorned with

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Lima.

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Lima from the Sea.

green balconies, though with the same bad taste of having little shops, among others, a drinking shop, on the ground floor. There are twenty-five convents in Lima, with churches attached to them; and fifteen nunneries. The convent of San Francisco, with its appendages, is the most extensive, and, though not so rich, is more elegant than the cathedral. An immense treasure in the precious metals was contained in these establishments; but during the revolution great part has been abstracted, though the base materials substituted have been carefully gilded over. The population of Lima is reckoned by Caldcleugh at 70,000, of whom about 25,000 are Spaniards, 2500 clergy, 15,000 free mulattoes, 15,000 slaves, 7200 mestizos, and 5200 Indians. Mr. Stevenson estimated the number at 87,000, and Mr. Proctor heard it reckoned at above 100,000; but no recent census has been taken. Callao, communicating with Lima by a very fine road, has an excellent harbour formed by two islands. The forts by which it is defended are handsome and strong; and Callao itself is a considerable town, with 6000 inhabitants.

On the coast to the north of Lima is Truxillo, a handsome little town, a miniature of Lima, and built in the same gay style. Around it is a very extensive and productive plain; and other tracts, which are now sandy wastes, are proved, by the remains of acequias, and the ruins of large towns, to have been cultivated and peopled in the time of the Incas. By its port of Huanchaco, which has a tolerable roadstead, Truxillo sends the produce of its territory to Lima, and receives foreign manufactured goods in return. It contains about 12,000 inhabitants. On the 29th November, 1820, the Marquis of Torretagle, governor of Truxillo, proclaimed the independence of that intendency, and thus rendered an essential service to the cause of liberty in Peru. Huachi and Supe are large Indian villages, the houses poorly built of mud; but the inhabitants, an active and hardy race, carry on some fine manufactures of cloth and glass. Sanna is the seat of a considerable trade, and Lambayeque, to the north of Truxillo, is the most thriving place between Lima and Guayaquil. The inhabitants manufacture excellent cordovans of goatskin; cotton cloth, particularly table linen and canvas; soap, which, though much inferior to that of Europe, is preferred in Peru; sweetmeats made from the fine fruits of the country, which are packed up in chip boxes, and sent all along the coast. Piura, still farther north, is generally accounted the most ancient city in South America, though it is not exactly on the site of the city founded by Pizarro. Its district is noted for the finest breed of mules in Peru, sometimes selling for 250 dollars each; also for a very fine breed of goats, from whose skins they manufacture good cordovans; and they make also some cotton cloths, though not on so great a scale as at Lambayeque. The houses are built of cane and mud, and the streets, both here and at Truxillo, being unpaved, the passenger walks ankle-deep in sand and mud. Payta, celebrated for the successful descent of Anson in 1741, is a commodious and well-frequented sea-port, the most northerly in Peru, and where, consequently, a considerable quantity of goods is landed from Panamá, to be distributed through the country. It being a complete desert of sand, potable water is brought from a distance of twelve miles, and sold at a high price.

To the south of Lima, and only four miles distant, is Miraflores, an assemblage of villas surrounded by gardens, formerly the country residence of a number of the grandees of the capital, which the late disturbances have caused to be almost deserted. Four miles farther is Chilca, the Brighton of Lima, to which a great part of the population resorts during four months of the year, for coolness and for sea-bathing. In proceeding southward, the coast becomes very desolate. Pisco, though bearing the name of a city, is, in fact, only a poor village. On islands near it, however, are vast accumulations of the excrement of birds, forming the richest manure that is anywhere known. The vines in the neighbourhood produce fruit, from which is made a large quantity of good brandy.

The department of Arequipa fills the space between the ocean and the Andes. It is one of the most fertile provinces in Peru; rich in maize, sugar, and vines, from which an esteemed red wine is made. There are some considerable silver mines, but not to be compared to those on the other side of the mountains. Arequipa is a large city, considerably in the interior, in an agreeable and healthy climate. All the principal houses are substantially built of stone. The river Chile supplies the city with water, and irrigates the surrounding lands. The population has been estimated from 24,000 to 40,000: the first number is the most probable. Arequipa has stood, notwithstanding shocks of earthquakes repeated three or four times in each century. Near it is a great volcano, whence arise clouds of ashes, which reach even to the ocean. Islay, its sea-port, is only a village. Arica was originally a port of considerable importance: but since the earthquake of 1605, and the plunder of the place, in 1680, by the pirate Warren, it has been in a great measure deserted, and the population has emigrated to Tacna, which is a thriving town, about thirty miles in the interior, employing extensive droves of mules to carry the merchandise landed at Arica into the provinces beyond the Andes. Moquehua, another interior place, is chiefly noted for the good wine produced in its district. In the southern part, which is a sterile desert, are the silver mines of Huantajaya.

The northern interior of Peru, forming part of the departments of Junin and Libertad, consists of the provinces of Huailas, Huamalies, and Conchucos: they occupy various levels in the great interior table-land of the Andes, and are reached by rocky and almost precipitous routes over the western chain. They present that variety of rich and valuable produce, which generally marks the American table-lands. Wheat, barley, cacao, sugar, are grown in its different stages; fine cinchona is brought from the eastward, though the wasteful mode of collecting it may cause a dread of exhaustion; the fine soft wool of the alpaca and vicuna is collected. There is a great deal of manufacturing industry in these upper districts; the wool is made into ponchos, flannels, serges; the goatskins into cordovans; the tallow into soap. The mines, which were formerly worked to a considerable extent, are now almost all abandoned. Great hospitality prevails; any respectable traveller, on arriving at a town, has only to go to the best house in it, where he is sure to be entertained, usually without charge. Rudeness, however, is ascribed to the inhabitants, especially of Conchucos, and believed to arise from habits formed under the mining system. There are several pretty large towns in this high district, which serve as markets for the produce of the neighbouring country, and channels by which they receive European commodities. These are, Caxatambo, Huaras, and Caxamarca; each of the two last, according to Mr. Stevenson, containing 7000 inhabitants. Caxamarca is, above all, distinguished as having contained a palace of the ancient Incas, and being the spot where Atahualpa, the last of the dynasty, fell by the sword of Pizarro. An Indian family still boasts this high descent, and inhabits the remains of the palace of Atahualpa, and particularly the room in which that unhappy prince was confined, and where is still shown the mark in the wall, up to which he was to fill the apartment with silver. In the neighbourhood are also the remains of a vast mass of building, constructed of ponderous stones, in the Peruvian fashion, and capable of containing 5000 persons.

The vast plains called the Pampas del Sacramento extend eastward from the provinces to the great river Beni or Ucaili. They are not naked plains, like the southern pampas, but covered with immense forests. The full occupation by the Indians is only interrupted by missionary settlements, which exist in considerable numbers.

The district of Tarma, in Junin, is chiefly distinguished for containing the richest silver mines in Lower Peru, among which those of Pasco take the lead; but the working of them having ceased, from causes already described, the town is fast going to ruin. The town of Tarma contains about 5500 inhabitants, having a considerable manufacture of baize. Jauja, situated in a very fine valley, is also of considerable importance, as commanding the passage of the Andes from the interior to Lima. Guanuco, north of Tarma, is distinguished by Peruvian remains, and still more by containing the infant rivulet, which swells into the stream of the mighty Amazons.

Guamanga and Guanca-Velica, in Ayacucho, occupy the more southern valleys of the Andes. The former has many districts very fertile in green pasture, and its capital, of the same name, is a great and very handsome city, built of stone, and adorned with magnificent public places and squares. It has an university of royal foundation, richly endowed, and contains 16,000 inhabitants. Guanca-Velica is bleak and cold, only distinguished for the rich mines of mercury, which once rendered it a flourishing place, but are now so much declined that the population is reduced to 5000. The little village of Ayacucho, which gives name to the department, was the theatre of the victory which (1824) delivered South America from the Spanish yoke.

Cuzco, the grand metropolitan seat of the ancient empire of Peru, is situated east of these provinces, and somewhat deep in the interior. It is placed upon a knot of the loftiest Andes, the summits of which are enveloped in eternal snow, but separated by valleys, and even extended plains, rich in pasturage, and in the grain of the temperate climates. The Peruvian fabrics of woollens and of cordovan leather, exist still on a more extended scale than in any of the provinces yet mentioned. The imperial city of Cuzco, even in its fallen state, is still handsome, and even splendid. The cathedral is described as a noble pile. The Dominican church has been built from the materials of the ancient temple, on the same site, and the altar has taken place of the image of that deity. On an eminence are the walls of the fortress of the Incas, raised to a great height, and built of truly astonishing masses of stone. Cuzco is stated by Mr. Jacob to contain 32,000 inhabitants, of whom three-fourths are pure Indians, the rest mestizos, with only a small and diminishing proportion of Spaniards. The manufactures are considerable. Cuzco threw off the Spanish yoke earlier than Lima, but the city was soon retaken by the royalists, and remained with them till the final extinction of their power.

To the south of Cuzco, in the department of Puno, is the town of the same name, containing a college and 18,000 inhabitants. Coquito is much decayed since the celebrated insurrection of Tupac Amaru, at the end of the last century, when it had a population of 30,000.

Subsect. 2.—*Bolivia.*

The republic of Bolivia was established in 1825, previous to which time the territory was attached to the viceroyalty of Rio de la Plata. It extends from 58° to 71° W. long., and its main body lies between 11° and 22° S. lat.; but a narrow tongue of land on the sea projects southwards as far as 25°. It has an area of about 400,000 square miles, with a population of about 1,700,000. Bolivia forms an extensive territory, situated south and somewhat east of Lower Peru, with which it assimilates in aspect and productions. This is among the least known regions of the globe, yet one which its natural features render peculiarly interesting. It is now ascertained, by the important observations of Mr. Pentland, to contain the loftiest mountain peaks in the New World, yielding in height only to those of the Himalayah. The summit of Sorata was found to be 25,400 feet high; that of Illimani, 24,350; so that Chimborazo, which is only 21,400, must hide its diminished head. The very elevated table-plain from which these colossal summits rise appears to have prevented their extraordinary elevation from becoming sensible, till it was determined by barometrical measurement. This table-plain, though not the most elevated, seems undoubtedly the most fruitful and populous on the globe. That of Thibet is as lofty, and vegetation ascends as high on the southern slopes of the Himalayah. But while Thibet, in general, presents only wide pastoral expanses, covered with numerous herds of goats, sheep, and oxen, this western table yields copious harvests of rye, maize, barley, and even wheat; it has cities above the region of the clouds; villages which would overtop the white pinnacles of the Jungfrau and the Schreckhorn; cottages as high as the top of Mont Blanc. The following are among the most remarkable heights:—the city of Potosi, 13,350 feet (its mines, 16,060); city of Púno, 12,832; of Oruro, 12,442; of La Paz, 12,194; of Charcas, 9332; of Cochabamba, 8440; cottages at the source of the Ancomarca, 15,721; post-house of Pati, 14,402. Mr. Pentland's observations of longitude, though imperfect, seem to show that the principal stations in this region are farther east, and more in the interior, than our maps represent them, in consequence of which these remarkable summits are not visible from the Pacific.

The new government has formed Bolivia into seven departments:—Chuquisaca, La Paz, Oruro, Potosi, Cochabamba, Santa Cruz de la Sierra, and the province of Tarija.

A site has been fixed upon for a capital, to bear the name of Sucre, the commander whose victory at Ayacucho secured the independence of the state; but as the city is not yet in existence, the interim metropolis is fixed at Charcas, which has been re-invested with the ancient Peruvian name of Chuquisaca, and has borne also sometimes that of La Plata, from the silver mines in its vicinity. It is a handsome city, containing about 12,000 inhabitants. Notwithstanding its astonishing elevation, the country round is fertile and smiling. There is an university numerously attended, and a library, said to be one of the best in South America.

La Paz, to which M. Balbi, on Mr. Pentland's authority, assigns a population of 40,000, is really the chief city of Bolivia, and surrounded by the most interesting objects in that country. A few miles to the south is the Nevado de Illimani, and at some distance to the north rises that of Sorata, both already described as the highest mountains in the New World. At some distance to the north-west is the great lake of Titicaca, about 150 miles long, and the largest in South America. This lake is a sacred object in the eyes of the Peruvians, since, according to their most sacred traditions, it was on an island in its centre that Manco Capac and his spouse first appeared to give laws and arts to the empire. At the village of Tiahuanacu, near its banks, are the remains of a stupendous palace erected by the ancient Peruvians. The interior courts, 360 feet square, are built of enormous blocks of stone, some of which weigh eighty tons. The great gates are each composed of one single mass. There are also remains of colossal images, but rudely sculptured.

Potosi enjoys the greatest fame of any city in this region, but retains, as already observed, few traces of the wealth which gained for it this celebrity. It is probably the most elevated city in the world, being, as stated above, 13,000 feet above the sea, and consequently higher than the Peak of Teneriffe. It is not a well-built town; the streets are narrow and irregular, and most of the houses indifferent. It has, however, a college and a mint. Reports vary greatly both as to its past and present population. The assertion that, in its most flourishing state, it ever contained 160,000, is probably much exaggerated. In its present decline, Mr. Pentland, the latest and perhaps best authority, states, that a census in 1826 found in it not more than 9000 inhabitants.

There are some other considerable places in this region. Oruro has not more than 4000 or 5000 inhabitants; but the mines in its vicinity were once important. Cochabamba, in the midst of a fertile though mountainous territory, has been said to contain 30,000 inhabitants. Santa Cruz de la Sierra, situated amid an extensive plain in the eastward, is an ill-built town, with a population of about 9000. Large tracts in this quarter are occupied by the Moxos and Chiquitos, Indian tribes nearly independent, unless so far as the missionaries have reclaimed them from their savage habits. Tarija, a small province to the southward, belonging to the territory of La Plata, has voluntarily united itself with Bolivia. The republic, in their small extent of coast, have only one port, that of Cobija or Puerto de Lamar, which labours under a deficiency of fresh water; so that they are obliged at present to receive almost all their foreign commodities across the mountains, by way of Arica.

CHAPTER VII.

THE WEST INDIES.

THE WEST INDIES consist of an archipelago of large and fine islands, situated in the wide interval of sea between North and South America. Their rich products, their high cultivation, and the very singular form of society existing in them, have rendered them in modern times peculiarly interesting.

SECT. I.—*General Outline and Aspect.*

These islands extend in a species of curved line, first east, and then south, beginning near the southern point of the United States, and terminating at the coast of South America, near the mouth of the Orinoco. On the east and north they are bounded by the Atlantic; on the south, the Caribbean Sea separates them from the coast of Colombia; on the west, the broad expanse of the Gulf of Mexico is interposed between them and that part of the continent. They are situated generally between the fifty-ninth and eighty-fifth degrees of west longitude; and, excluding the Bahamas, between the tenth and twenty-third degrees of north latitude. The largest are those which extend from the Gulf of Mexico eastward; Cuba, Hayti, Jamaica, and Porto Rico. Those which run from north to south are smaller; but many of them, as Barbadoes, Martinico, Guadaloupe, Trinidad, are very important from their fertility and high cultivation. This latter part of the group is frequently called the Windward Islands, from being exposed to the direct action of the trade winds, blowing across the Atlantic; they are named also the Antilles, and frequently the Caribbee Islands, from the name of the people, called Caribs, found there by the discoverers.

Mountains of considerable elevation diversify each of these islands, causing them to resemble the elevated remains of a portion of the continent, which some convulsion has overwhelmed. Generally speaking, the interior is composed of a range or group, sometimes of little more than a single mountain, the slopes of which, and the plain at its feet, constitute the island. The most elevated peaks of Cuba, Hayti, and Jamaica, exceed 8000 feet; while the highest summits of the Windward Islands range from 3000 to 4000 feet. Most of these eminences have evidently been the seat of volcanic action; but this appears to have ceased in all of them, except the Soufrière of Guadaloupe, which still exhibits some faint indications of it.

The streams which descend from these lofty heights, and water the plains along the sea shore, are numerous and copious, and form one main cause of the fertility which distinguishes this region; but as they soon reach the sea, none of them are so important as to call for notice in this general survey. Neither do their waters expand into lakes of any importance.

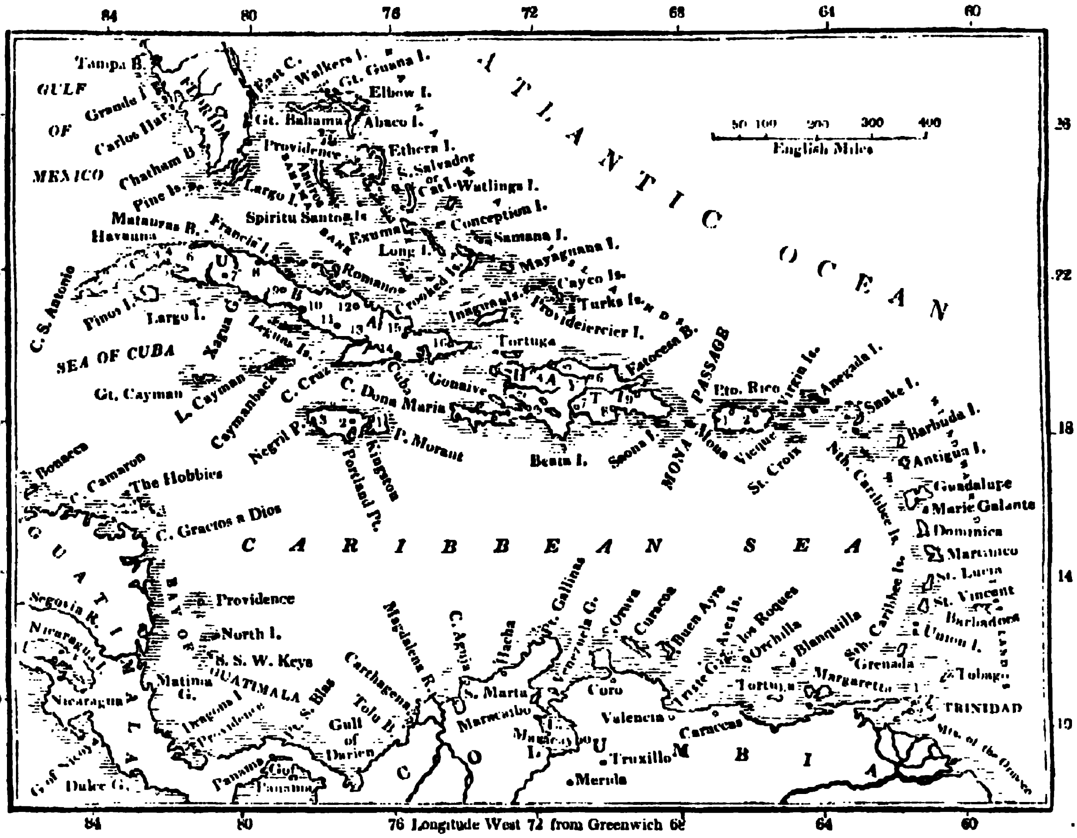
SECT. II.—*Natural Geography.*

SUBSECT. 1.—*Geology.*

Cuba. A range of mountains traverses this island from east to west, dividing it into two parts. At the foot of these the country opens into extensive savannahs. The lower districts are composed of secondary formations, through which we observe granite, syenite, gabbro, and gneiss rising in masses of greater or less extent. The highest mountains, probably composed of mica slate, and named the Copper Mountains (Sierra de Cobre), at the south-eastern end of the island attain an elevation of nearly 10,000 feet. From hence towards the west there is a hilly range 1800 feet high, in which pure limestone and argillaceous sandstone are the predominating rocks. Near Villa Clara a silver mine has been discovered, and also native gold, ores of copper, and coral marbles, of various kinds, are mentioned as occurring in the island.

Hayti. We have no account of the geology of this island.—The long and narrow granitic tongue of land, which extends from Port au Prince westwards to Cape Tiburon, was fearfully wasted by an earthquake, in the year 1770. Whole mountains were overturned. The other parts of the island were not disturbed by the earthquake. Hence it may be conjectured, says Von Buch, that this chain rests upon a great internal vent.

Jamaica. A part only of the geology of this island has been described by M. De la Beche, in the Geological Transactions. The tract examined is confined to that quarter situated to the eastward of a line drawn from Alligator Pond Bay to St. Anne's Bay, thus taking in nearly the eastern half of the island, where the highest mountains occur. The Blue Mountain range is principally composed of transition rocks, as greywacke, associated with trap rocks. Resting upon these, at a lower and lower level, are red sandstone and conglomerate, white marl and limestone, in some places intermingled with traps and porphyries; the flat country, from Somerset to Kingston, being diluvium and alluvium. An extinct volcano occurs at Black Hill, in St. George's.



References to the Map of the West Indies

CUBA.
1. S. Isabella
2. Nombre de Dios
3. Honda
4. Havana
5. Batabano
6. Matanzas
7. Cienega de Zapata
8. S. Juan
9. Espiritu Santo
10. Negrillo Port
11. Villa del Principe
12. Nuevitas
13. S. Salvador, or Bayamo
14. Santiago de Cuba
15. Porto Nipe
16. Baracoa.

JAMAICA.
1. Kingston
2. Spanish Town
3. Savanna la Mar.

HAYTI.
1. St. Nicholas
2. St. Mark
3. Port au Prince
4. Cape Henry
5. M. Christi
6. S. Jago
7. Baitos
8. S. Domingo
9. Savanna.

PORTO RICO.
1. Aguadilla
2. San Juan.

TRINIDAD.
1. Porto Spain
2. Montserrat.

Volcanic Islands.—The smaller islands, named the Caribbean Islands, geognostically considered, form two groups; an eastern, or exterior, of Neptunian formation, and a western, or interior, of Volcanic formation. The volcanic islands appear, according to Von Buch, to stand in immediate connection with the primitive ranges of the Caraccas, because the earthquakes in the Caraccas ceased when the volcano in St. Vincent broke out. But, if this is the case, the connection must be through the islands of Tortuga and Margarita. This range of volcanic islands extends onwards in a curved direction, and terminates in a new primitive chain, at that point where the range has again assumed the same direction as the Silla of Caraccas. The Blue Mountains in Jamaica, the granite mountains in the southern part of Hayti, and in Porto Rico, run parallel with the Silla, and they (as appears on inspecting the map) are equally a continuation of the volcanic series of the small Antilles, as these are of the Silla. None of these volcanoes are very lofty, the highest scarcely attaining an elevation of 6000 feet above the level of the sea. The Volcanic islands are Grenada, St. Vincent, St. Lucia, Martinique, Dominica, Guadaloupe, Montserrat, Nevis, St. Christopher, and St. Eustatia: the Neptunian islands, which are low, and principally composed of limestone, are Tobago, Barbadoes, Marie-Galante, Grande Terre, Deseada, Antigua, Barbuda, St. Bartholomew, and St. Martin.

Neptunian Islands.—The only island of this group of which we have a detailed account is Antigua, described by Dr. Nugent in the sixth volume of the Geological Transactions. It contains, besides the characteristic Neptunian rocks, also formations of volcanic origin; and hence may be considered as connecting, in a geognostical point of view, the Neptunian and Volcanic islands. The whole north-eastern part of the island is composed of a yellowish white, earthy, nearly friable, limestone, which in its upper strata contains Helices and Bulimas, but in the lower, great abundance of Cerithiæ, principally enclosed in a siliceous bed of a dark colour, which is subordinate to the limestone. It appears to belong to the tertiary class, and forms hills from 300 to 400 feet in height. The island is crossed from N.W. to S. E. by a conglomerate, which, in a clayey basis, contains many crystals of felspar, abundance of green earth, probably disintegrated augite, and masses of basalt, also of amygdaloidal dolerite or greenstone, lava, hornstone with impressions of corals, and numerous pieces of petrified wood of all sizes and forms, principally palms and other tropical trees. Trees of the same kind also occur in the siliceous bed in the limestone. The rocks of this conglomerate are generally steep towards the S.W., and gently inclined towards the N.E. The limestone evidently rests upon this conglomerate. To this follows, in the south-western part of the island, a doleritic basalt, which forms the greatest height. The separation of these rocks is accurately in the direction of the volcanic islands, that is, from N.W. towards S.E. Hence the island of Barbuda, which is farther removed from the volcanic range, lies entirely in the limestone region. The shells in the limestone differ but little from those of the surrounding sea; but the limestone expands over the whole island, which, although it is eighteen miles long, and thirteen miles and a half wide, is nowhere higher than about 110 feet above the sea. A basaltic cover, therefore, separates this limestone from the volcanoes; and probably these latter, before reaching the surface, have previously forced their way through the basalt. It occurs again in Tobago: specimens of dolerite, containing remains of cerithiæ, have been sent from the island; showing that a limestone similar to that of Antigua lies over it. Barbadoes, in its general composition, is very much like Antigua; and the same would appear to be the case with St. Bartholomew and St. Martin. In Descada, Marie-Galante, and Grande Terre, limestone only appears. This limestone extends to the north and east sides of Martinique.

Volcanic Islands.—Grenada. Coral reefs bound the coast from S.W. to N. E., but not on the west side. Basaltic pillars occur on two places on the coast. The Morne Rouge, formed of three conical hills, from 500 to 600 feet high, is entirely composed of slags and vitrifications. It is, therefore, probably a cone of eruption.

St. Vincent. The volcano Morne Garou, which is the loftiest mountain in the island, is 4740 feet high. It was ascended on April 26, 1812, the day immediately preceding the eruption which has made the island so well known to geology. The crater was half a mile in diameter, and from 400 to 500 feet deep. In the middle of it there rose a concave hill, from 260 to 300 feet high, covered, in the lower part, with vegetation, but the summit with sulphur. Vapours of sulphur also ascend from many crevices in the rocks. The crater, according to Anderson, exhibited the same appearance in 1785; and he remarks how evidently St. Vincent, the Soufrière of St. Lucia, Montagne Pélée in Martinique, and Dominica, were extended in the same line. On April 27, 1812, ashes burst from the crater, and, during the night, flames; on the 29th, during the night, lofty pyramidal flames were seen; and, on the 30th, at 7 A. M., lava burst open the north-west side of the mountain, and flowed so rapidly downwards, that it reached the sea in the course of four hours. At three o'clock, a frightful eruption of ashes and stones took place from the great crater, which destroyed nearly the whole of the plantations in the island.

St. Lucia. The crater occurs in a sharp and steep chain of hills, from 1200 to 1800 feet high, which traverses the island from N. E. to S.W. The sides of the crater are very lofty and steep, especially on the south-east side. Vapour breaks out on all sides. At the bottom there are numerous small lakes, in which the water appears to be perpetually boiling, and in some places the ebullition is so violent that the water is thrown up to a height of four or five feet. Many places are incrusted with sulphur; and brooks which flow down the sides of the mountain abound in carbonic acid. It is reported that, in the year 1766, an eruption of stones and ashes took place.

Martinique. The mountain Pélée, in the northern part of the island, which is 4416 feet high, contains a great crater, or a soufrière. Many smaller craters, at a height of 3000 feet, show former lateral eruptions. On the 22d of January, 1762, a small eruption, preceded by a violent earthquake, took place. Dr. Chisholm says the mountain is surrounded with pumice, and granite (trachyte) forms its body; Dupugot also speaks of a hillock of pumice, thirty feet high, on the west side of the mountain, which announces the existence of trachyte in its interior. The Piton of Carvet, rises in the middle of the island. Streams of felsparry lava appear on its acclivity, and basaltic pillars in the hollow between this and the third peak of the island, in the southern part, on the Pic de Vauclin.

Dominica. Dr. Chisholm says this island is a confused mass of mountains, the loftiest of which is 5700 feet high. Many solfataras occur in it, which are not burnt out, but, on the contrary, occasion small sulphur eruptions. The lower parts of the mountains are of trachyte.

Guadaloupe. The Saintes Islands, composed of columnar basalt, connect this island with Dominica. The highest hill among them is on the Terre d'en Haut, which is 966 feet. Probably these basalts form a border around trachyte hills. The Soufrière of Guadaloupe is 4794 feet high, according to Le Boucher; 5100 feet, according to Amie. It is situated in the centre of the island. On the 27th of September, 1797, after the Antilles had been agitated by earthquakes for eight months, this crater threw out a quantity of pumice, ashes, and dense sulphureous vapours, which evolution was attended with loud subterranean noises.

Montserrat. Nearly the whole island is composed of trachyte, with embedded, broad, beautiful crystals of felspar and of black hornblende. The Soufrière is situated in the Heights of Galloway, and is from 300 to 400 yards long, and about half as broad. Vapours of sulphur rise through the loose stones and heat the ground. The water which flows along in the neighbourhood of these vents is heated to boiling; that which flows at a distance remains cold. But the sulphur does not always rise from the same vents: new vents are daily forming, and old ones are closing up. Hence it happens that the whole mass of rock in the neighbourhood becomes impregnated with sulphur. A similar Soufrière is situated an English mile distant from this.

Nevis has a very characteristic crater, from which vapours of sulphur are condensed, and many hot springs rise in different parts of the island.

St. Christopher's, or St. Kitt's, is composed of rough precipitous mountains. The loftiest among them, Mount Misery, rises to a height of 3483 feet above the sea. This mountain is composed of trachyte, and conceals at its summit a perfect crater. The island formerly suffered much from earthquakes; but since the great eruption, in June, 1692, the ground has been but rarely agitated.

St. Eustatia is a conical mountain, about twelve miles in circumference, provided in the middle with a crater which much exceeds, in magnitude, circumference, and regularity, all the craters in the Antilles.

Bahama Islands. This numerous group, as far as we know, is entirely composed of limestone; which, in many places, displays magnificent caves. They may be considered a continuation of the limestone islands of the Caribbean Sea.

Trinidad appears to make a part of the continent; and Dr. Nugent remarks, that its rocks are either primitive or alluvial. The great northern range of mountains that runs from east to west, and is connected with the high land of Paria on the continent, by the islands of the Bocas, consists of gneiss, of mica slate containing large masses of quartz, and, in many places, approaches in nature to talc slate; and of bluish limestone, traversed by veins of calc spar. From the foot of the mountains, for many leagues to the northward, there extends a low and perfectly flat land, evidently formed by the débris of the mountains, and by the copious tribute of the waters of the Orinoco, deposited by the influence of currents. The famous asphaltum or pitch lake, situated amidst a clayey soil, is about three miles in circumference; and, in the wet season, is sufficiently solid to bear any weight, but in hot weather is often in a state approaching to fluidity. The asphaltum appears to be supplied by springs. At the south-west extremity of the island, between Point Icacos and the Rio Erin, are small cones, resembling those of the volcanoes of air and mud, near Turbaco in New Grenada, which are of the same nature with those of Macaluba and the Lake Naftia in Sicily.

Subsect. 2.—*Botany.*

The splendour of the vegetation in the islands of the West Indies is the theme of every traveller there. We must content ourselves with noticing some of the most important of its productions.

Few plants are more extensively valuable, in a commercial point of view, than the Mahogany (*Swietenia Mahagoni*) (*fig.* 1010.). The uses of this wood are too well known to render it necessary here to mention them, further than to say that almost all our valuable furniture is formed of it, and that it is particularly adapted to such purposes by its great beauty, hardness, and durability, and the exquisite polish it is capable of taking. It is said, too, to be indestructible by worms or water, and to be bomb-proof: hence the Spaniards used to make their vessels of mahogany, and Captain Franklin took with him to the Arctic Sea, boats constructed in England of that material, as being the lightest (in consequence of the thinness of the planks), and the most portable, combined with great strength. Jamaica formerly yielded the greatest quantity of this wood, and the old Jamaica mahogany is still reckoned the most valuable; though the largest importations are now made from Honduras, where 200 years are considered necessary from the time of the plant springing from seed, till its perfection and fitness for cutting. This operation commences about August; the gangs of labourers employed in this work consisting of from twenty to fifty, each being headed by one man, called the captain, and accompanied by a person termed the huntsman, whose business it is to search the bush and find employment for the whole. The latter cuts his way among the thickest woods, where he climbs the highest tree, and thence minutely surveys the country. The leaves of the mahogany tree are invariably of a reddish hue; and an eye, accustomed to this kind of exercise, can at a great distance discern the places where the tree is most abundant. Thither he directs his

1010

Mahogany.

steps, without other compass or guide than his recollection affords, and never fails of reaching the exact spot, though he is sometimes obliged to use dexterity to prevent others from availing themselves of his discovery, and seizing first on the hidden treasure, those who follow him being entirely aware of any arts he may use, and their eyes being so quick, that the lightest turn of a leaf, or the faintest impression of a foot, are unerringly perceived.

The Mahogany tree is commonly cut about ten or twelve feet from the ground, a stage being erected for the axeman. The trunk, from its dimensions, is considered the most valuable portion; but for ornamental work the branches are preferred, the grain being closer and the veins more variegated. The cutting of roads is the most laborious and expensive part of the work; but it is customary to facilitate this as much as possible, by placing the scene of operations near a river. The underwood is cleared away with cutlasses, which the people use with great dexterity; but it is often necessary to clear away some of the harder and larger trees with fire. The quantity of road to be cut in each season depends on the situation of the body of mahogany trees, which, if much dispersed, will increase the extent of road-cutting: it not unfrequently happens that miles of road and many bridges are made to a single tree, which tree may ultimately yield but one log. The roads being now all ready, which may generally be effected in December, the cross-cutting, as it is technically called, commences. This is merely dividing crosswise, with the saw, each tree into logs, according to its length; some trunks yielding but one, others four or five logs: the chief rule for dividing the trees being so as to equalise the loads which the cattle are to draw. A supply of oxen is constantly kept in readiness, lest the usual number should be overburdened by the weight of the log: this is unavoidable, owing to the very great difference of size of the mahogany trees; the logs taken from one being about 300 feet, while those from the next may be 1000. The largest log ever cut in Honduras was of the following dimensions: length 17 feet, breadth 57 inches, depth 64 inches; measuring 5168 superficial feet, or 15 tons weight. The largest log of mahogany ever brought from Honduras to Glasgow is thus described:—It was taken to the wood yard on a four-wheeled carriage, and there placed between two other logs, preparatory to being cut up, as no saw-pit was capable of containing it. The length was 16 feet, depth 5 feet 6 inches, and breadth 4 feet 9 inches. It contained 418 cubic feet, and 5016 feet of inch deal; the cost of sawing it, at 3*d.* a foot, amounted to 62*l.* 14*s.* The value of the whole, estimated at 1*s.* 2*d.* per foot, was 292*l.* 12*s.*; and the weight was 7¾ tons. The time of drawing the logs from their place of growth is April or May, the ground at all other seasons being too soft to admit of the heavily laden trucks passing without sinking, and it is essential that not a moment of dry weather be lost in drawing the wood to the river. The night is employed in this work, as the days are too hot. Nothing can present a more extraordinary spectacle than this process of trucking, or drawing down the mahogany to the river. Six trucks are commonly employed together, occupying a quarter of a mile of road: the great number of oxen; the drivers, half naked (clothes being inconvenient from the heat and dust), each bearing a lighted torch; the wildness of the forest scenery, the rattling of chains, the sound of the whip echoing through the woods; then all this activity and exertion so ill corresponding with the still hour of midnight, makes it wear more the appearance of some theatrical exhibition than what it really is, the pursuit of industry which has fallen to the lot of the Honduras woodcutter. In the end of May the periodical rains recommence: the torrents are so great as to render the woods impracticable in the course of a few hours; when all trucking ceases, the cattle are turned into pasture, and the trucks, gear, tools, &c. are housed. In the end of June, the logs of mahogany are floated down the swollen rivers in *pitpans* (a kind of flat-bottomed canoe) followed by the gang of labourers, to disengage them from the overhanging branches and to form them into rafts at the end of the voyage, where they are taken out of the water, re-smoothed with the axe, and the ends, which have frequently been split and rent, by dashing against rocks in the river, are sawed off, when the mahogany is ready for shipping. The average expense of mahogany cutting is usually estimated at about 70*l.* sterling each labourer per annum, independent of the capital sunk in the purchase of the works, cattle, trucks, &c. &c. In St. Vincent's, where the mahogany is not indigenous, the trees do not attain a greater height than fifty feet, and a diameter of eighteen inches. The bark of mahogany is very astringent and bitter; and in its action on the human frame has been said to coincide nearly with the Peruvian bark.

The Maranta arundinacea is a plant of considerable interest, as it is believed to yield Arrow-root, a well-known and elegant article of diet, which is prepared, according to the late Dr. Sims, from its roots, not by drying and pounding, as has been stated, but by maceration in water, in the same manner as starch is made from wheat, potatoes, and other farinaceous substances. Great quantities of arrow-root have, of late, been imported into this country from the West Indies, and much recommended as food for young children, and as a light nourishment in sickness. A similar substance, probably in every respect of equal efficacy and not less salubrious, has, of late years, been prepared in considerable quantities, in the Isle of Portland, from the roots of the common Cuckow Pint (*Arum maculatum*). The

Maranta arundinacea is an herbaceous perennial, and increased by parting the roots. It grows two or three feet high, with broad leaves and a spike of small white flowers.

Myrtus Pimenta, the handsome tree which produces the Allspice or Pimento of commerce, is a native of the West Indies, and especially the island of Jamaica. Its profusion of white blossoms contrast most agreeably with the dark green leaves that clothe its numerous branches, while the rich perfume that is exhaled around, renders an assemblage of these trees one of the most delicious plantations of even a tropical clime. When the foliage is bruised, it emits a fine aromatic odour, as powerful as that of the fruit, and by distillation, a delicate oil, which is often substituted for oil of cloves. The allspice tree is of difficult cultivation, seeming to mock the labours of man in his endeavours to extend or improve its growth; not one attempt in fifty to propagate the young plants, or to raise them from the seeds, in parts of the country where the tree does not grow spontaneously, having succeeded. The enormous crop which the pimento tree sometimes yields, would render its culture very profitable. In a favourable season, one tree has been known to afford 150 lbs. of the raw fruit, or 1 cwt. of the dried spice; a loss of one third generally occurring in curing it. So plenteous a harvest seldom occurs above once in five years. Pimento combines the flavour and properties of many of the oriental spices; hence its popular name of Allspice.

The Avocado Pear is a beautiful smooth fleshy fruit, the production of *Laurus Persea.* Its flavour combines the taste of artichoke and filberts, but is not comparable to many of the European fruits; lemon-juice and sugar, pepper and vinegar, are often added to give it pungency. All animals are extremely fond of it, and many virtues are ascribed both to the fruit and an infusion of the buds of this tree, which is frequently ordered by the physicians in the West Indies.

The native country of the Papaw Tree (*Carica Papaya*) (*fig.* 1011.) has been much contested; writers on the East and writers on the West Indies being equally disposed to claim it as an aboriginal. That learned botanist and philosopher, Robert Brown, infers, from various circumstances, that the papaw tree is a native of America and the West Indies, but has been naturalised in Hindostan, the Philippines and Moluccas. It is a tree of rapid growth. St. Pierre probably spoke from his own knowledge, when he described Virginia as having planted a seed, which in three years' time produced a papaw tree twenty feet high, loaded with ripe fruit. It is for the sake of this fruit, mainly, that the tree is cultivated; in Jamaica, it is generally eaten boiled, and mixed with lime-juice and sugar, or baked like apples. The juice of the pulp is used as a cosmetic to remove freckles, and the negroes in the French colonies employ the leaves to wash linen, instead of soap. As a medicinal tree it is deserving of notice, the milky juice of the fruit or the powder of the seed being a very powerful vermifuge. But the most extraordinary property of the papaw tree is that which was first related by Brown in his *Natural History of Jamaica*, namely, that water impregnated with the milky juice of this tree makes all sorts of meat washed in it very tender; but that eight or ten minutes' steeping will make it so soft, that it will drop in pieces from the spit before it is roasted, or turn to rags in boiling. This circumstance is confirmed in Mr. Neill's interesting *Horticultural Tour through Holland and the Netherlands*, and by the testimony of gentlemen who have been long resident in the West Indies, who state that the employment of this juice for such a purpose is of quite general occurrence; and more, that old hogs and old poultry, which are fed upon the leaves and fruit, however tough the meat they afford might otherwise be, are thus rendered perfectly eatable, and excellent too, if used as soon as killed; but that the flesh soon passes into a state of putridity. The very vapour of the tree serves the purpose; it being customary in Barbadoes to suspend the fowls and meat from its trunk, to prepare them for the table. The existence of this astonishing property in the papaw tree is attributed to the *fibrine*, which has been proved by M. Vauquelin, the eminent French chemist, to exist in its juice, a substance that had previously been supposed to belong exclusively to the animal kingdom.

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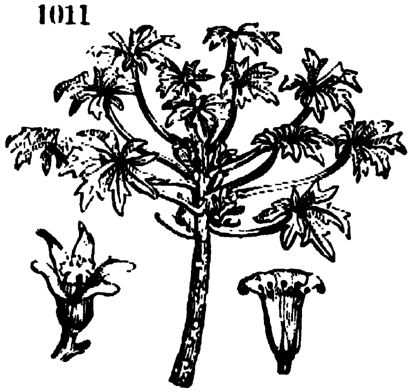


Papaw Tree.

The tree which produces the Cashew nut (*Anacardium occidentale*) bears much resemblance to the walnut, and its foliage has nearly the same scent. The fresh nut is well tasted, it improves the flavour of many dishes, and forms great part of the food of the inhabitants of the Philippine Isles and many parts of India. They roast it in the husk, and eat it with salt. The husk contains a mucilaginous, acrid, burning, and caustic juice, which affords so indelible a stain, that it is used for marking ink, and for cleansing foul ulcers. It also consumes excrescences and warts, but it is necessary to wash the parts with water immediately after its application. A more dubious property is that attributed to the Anacardium, of brightening the faculties, strengthening the memory, &c.

1012

Banana.

1013

Plantain.

With regard to the Banana and Plantain (*Musa paradisiaca* and *M. sapientum*) (*figs.* 1012 and 1013.), Humboldt thus writes:—"It is to be doubted whether there is another plant in the world which on so small a space of ground produces such a mass of nourishing substance. In eight or nine months after the sucker is planted, the Banana begins to show its flowering stem, and the fruit may be gathered in the tenth or eleventh month. When the stalk is cut down, one among the many shoots is always found, which is about two-thirds as high as the parent plant, and will bear fruit three months later. Thus a banana ground is kept up without any further trouble than that of cutting down the stem of which the fruit has ripened, and stirring the ground a little, once or twice a year, about the roots. In one year a space of 100 square mètres, containing 30 or 40 banana plants, gives upwards of 2000 kilogrammes or 4000 lbs. weight of nourishing substance. What a difference between this produce, and the grain that is yielded by the most fertile parts of Europe! Calculations prove that the amount of nourishing substance obtained from a banana ground is as 133 to 1, when compared with the growth of wheat on the same space; and as 44 to 1, of potatoes. In the stoves of our country, the banana never ripens properly; the soft saccharine mucilage that fills it bearing no more resemblance to the matured and mealy fruit, than the milky substance that is contained in the green corns of wheat does to the hard and ripened farinaceous kernel. It would be difficult to describe the various processes by which the South Americans and West Indians prepare this fruit. I have often seen the natives, after a day of great fatigue, make their dinner on a very small quantity of manioc and three bananas of the larger kind. Generally speaking, in hot countries, the people are partial to saccharine food, which they consider not only palatable, but highly nourishing. The muleteers on the coast of the Caraccas, who conveyed our baggage, frequently preferred raw sugar for their dinner to fresh meat. The ripe fruit of the banana, exposed to the sun, dries like a fig; its skin turns black, and the whole smells like smoked ham: in this state it is most wholesome. A great advantage arises from the facility with which the banana is raised, which makes it even preferable to the bread-fruit, which, though loaded with fruit for eight months of the year, when once destroyed, as it often is during the native wars, causes lasting distress to the country."

1014

Passion-flowers.

Passion-flowers (*Flos Passionis*) (*fig.* 1014.) of four different kinds, so named from the fancied resemblance exhibited by the plant to the instruments of our Saviour's passion, produce the fruit called in the West Indies the Grenadilla. The latter name is derived from its similarity to the Pomegranate (*Punica Granatum*). In the lanceolate leaves of the passion-flower, our Catholic ancestors saw the spear that pierced our Saviour's side; in the tendrils, the whip; the five wounds in the five stamens; and the three nails, in the three clavate styles. The greatest resemblance lies in the filamentous crown, which not unaptly represents the crown of thorns, or, as some have it, the crown of glory; but as it required even more than monkish ingenuity to have made the twelve apostles out of the ten divisions of the floral covering, they limit the number of these saints to ten; excluding Judas, who betrayed his master, and Peter, who denied him. Old cuts still exist, where all the flower is made up of these things.

The Pine Apple, of which several species are natives of the West Indies, is too well known in this country to require any lengthened description:—

> " Its luscious fruit *Anana* rears
> Amid a coronet of spears."

Careful cultivation in a hot-house is said to render the fruit even better than in its native soil; a circumstance that may readily be believed, when we know how far superior are the grapes of our hot-houses, to those raised in the open air, a skilful treatment and choice of sorts more than making up for the want of sun and the deficiency of natural temperature.

The Mammee (*Mammea americana*) is a lofty tree, bearing a yellow fruit, not unlike a very large russet apple, of which the pulp resembles a fine apricot, and is highly fragrant, with a delicious flavour. The Mammee is abundant and much prized in the West India markets, where it is considered one of the best native fruits.

In the West Indies, so fine are the climate and soil, that tropical plants, from all parts of the world, are readily cultivated; and a beautiful picture of the garden and surrounding country of St. Vincent's is given by the late Reverend Lansdown Guilding, an eminent naturalist and most successful draughtsman, whose loss to science we have recently had cause to deplore. " The part that is crowded with trees of larger growth is, perhaps, most calculated to interest the European visiter. If he derives any pleasure from the beauties of picturesque scenery, he will scarcely be able to define what most excites his admiration, the individual beauty and contrast of forms,

> ' or that eternal spring
> Which here enamels every thing,'

and calls forth a luxuriance of vegetable life in every direction. Nature appears prodigal of organic matter. The ground is overloaded with plants, which have scarcely room for their developement. The trunks of the older trees are everywhere covered with a thick drapery of ferns, mosses, and orchideous plants, which diffuse into the air the richest odours, and almost conceal from sight the noble stems that uphold them. Their growth is favoured by the great moisture of the air, and these lovely parasites, sheltered from the direct rays of the sun, are seen ascending on every side, even the larger branches. So great is the variety of vegetable beauties that sometimes decorate a single trunk, that a considerable space in an European garden would be required to contain them. Several rivulets of the purest water urge their meandering course through the brushwood; various plants, of humbler growth and which love humidity, display their beautiful verdure on their edges, and are sheltered by the wide-spreading arms of the Mango (*Mangifera indica*), Mahogany (*Swietenia Mahagoni*), Teak (*Tectona grandis*), Mimosas, and other woods, remarkable for their stateliness, and clothed in wild and magnificent pomp. The vegetation everywhere displays that vigorous aspect and brightness of colour, so characteristic of the tropics. Here and there, as if for contrast, huge masses of trap, blackened by the action of the atmosphere, and decayed Tremellæ, present themselves; those blocks which, in colder climates, would be doomed to eternal barrenness, or, at most, would only nourish the pale and sickly Lichen, here give support to creeping plants of every form and colour, which cover with yellow, green, and crimson, the sides of the sable rock. In their crevices, the succulent species are daily renewed, and prepare a soil for larger tenants; from their summits, the Old Man's Beard (*Rhipsalis Cassutha* of Hooker), and similar weeds, which seem to draw their nourishment from the air, hang pendent, floating, like tattered drapery, at the pleasure of the winds. At a distance is seen the Trumpet tree, whose leaves seem made of silver plates, as the blast reverses them in the beams of the mid-day sun. In a solitary spot rises a wild Fig tree (*Ficus religiosa*), one of the gigantic productions of the torrid zone. The huge limbs of this tree, covered with perpetual verdure, throw down, often from the height of eighty or ninety feet, a colony of suckers of every possible size, from that of packthread to the vast cable of a ship, without any visible increase in their diameter, and without a joint; these, reaching the ground, become other trees, but still remain united,—happy symbol of the strength which proceeds from union. At other times, the suckers blown about by the winds are entangled round the trunk of some neighbouring rock, which they surround with a network of the firmest texture, as if the hand of man had been employed."

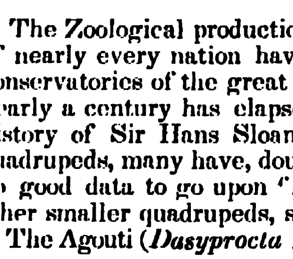
" All the beauties which Nature has lavished on the equinoctial regions are here displayed in their fairest and most majestic forms. Above the rocky summit of the hills, the Tree Ferns, which are the principal ornament of our scenery, appear at intervals: Convolvuli and other creepers have climbed their high stems and suspended their painted garlands. The fruits of our country scattered around within our reach, and the wide green leaves of the Bananas and Heliconias, planted beneath, serve also to minister to our refreshment. On every side, innumerable Palms of various genera, the Cocoa-nut, Date, Cabbage Palm, &c., whose leaves curl like plumes, shoot up majestically their bare and even columns above the wood. The portion of the botanic garden near the house of the superintendent has been devoted to the reception of the Spices, the medicinal and other useful plants. In the same group are seen the precious Nutmeg (*Myristica officinalis*), exposing, in the centre of its bursting drupe, the seed surrounded by the crimson Mace; the Cassia, with its pendent pods of curious length; the magnificent Lagerstrœmia (*L. Reginæ*), displaying one extended sheet of lovely blossoms; the Cannon-ball Tree (*Lecythis bracteata* or *Couroupita guianensis*), with its sweet and painted flowers, scattering its fetid fruit, so much resembling the fatal shell, that we might suppose a company of artillery had bivouacked in its shade; the Calabash, with its large green pericarp, so useful in the poor man's hut; and the Screw Pine (*Pandanus odoratissima*), with its fruit carved in rude and curious workmanship, and its ribbed stem, supported on a bundle of fagots. Assembled together are the various fruits, transplanted from the islands of Asia and other distant lands, or the Antilles, attracting, by their nectared flowers, the gaudy humming-birds. You behold the Bread-fruit (*Artocarpus incisa*) of the Friendly Islands, the most precious gift of Pomona, and the Jack of India (*A. integrifolia*), bearing their ponderous fruit of the weight of 60 or 70 lbs. on the trunk and arms; huge deformities for the lap of Flora. Here, too, a stunted Cork Tree (*Quercus Suber*), and a small European Oak (*Q. Robur*), sadly contrast their sickly forms with the proud offspring of the tropics. The Vanilla (*Epidendrum Vanilla*), with its long suckers, the Black Pepper (*Piper nigrum*) of Asia, hang suspended on the boughs; the gaudy blossoms of the Passiflora and the long tubes of the Solandra (*S. grandiflora*) appear amid the wood, mingling their blossoms with those of the neighbouring trees in wild confusion; while, at intervals, the Agave throws up its princely column of fructification from a host of spears. Innumerable Cacti and Euphorbiæ, covered with fruit or flowers, differing in the articulation of their stems, the number of their ribs, and the disposition of their spiculæ, give variety to the scene. At every step, plants remarkable for their beauty or fragrance ornament your path. But the reader will weary of the enumeration of the vegetable wonders that adorn this paradise. In proper beds are the useful herbaceous species, or the vegetables with which our tables are supplied. By the side of every rivulet rise large clusters of the Bamboo (*Bambusa arundinacea*), without a doubt the most generally useful of our plants. Nothing can exceed the beauty of this arborescent Grass, which rises to the height of sixty or eighty feet, waving its light or graceful foliage at every breath of the wind. The Sago (*Cycas revoluta*) and several kindred plants, so valuable for their nutritious fecula, are scattered about, attaining their greatest height in spots where nothing is allowed to impede their free developement."

Subsect. 3.—*Zoology.*

The Zoological productions of the West Indies have been but little attended to. Botanists of nearly every nation have repeatedly visited and explored the principal islands, that the conservatories of the great might be decked with blooming exotics; but, as regards Zoology, nearly a century has elapsed without any material addition being made to the antiquated history of Sir Hans Sloane on the animal productions of these islands. Of their native quadrupeds, many have, doubtless, been exterminated by civilisation; and, although we have no good data to go upon for the surmise, it may be supposed that cavies, armadilloes, and other smaller quadrupeds, still exist in the woody and less cultivated districts of the interior.

The Agouti (*Dasyprocta Acuti* Ill.) (*fig.* 1015.) may be considered in the West Indies as representing the hare of Europe, as it is about the same size. Although once common, it is now only met with in the less cultivated islands. It runs with great celerity, particularly up rising ground, but will frequently roll over, like the hare, in descending a hill: it feeds on all vegetables, but is very fond of nuts. In Cayenne, the Agouti is more common, and is there seen in troops of more than twenty.

1015



Agouti.

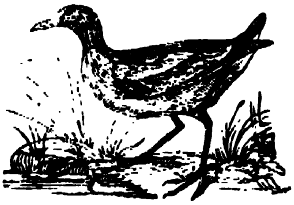
The Birds are almost as little known as are the quadrupeds: they seem, however, to belong to the same families, and in numerous instances to the same species, as those of the neighbouring parts of Florida and Georgia, mixed with several others more particularly belonging to the Terra Firma. Our friend, Mr. Lees, has transmitted us, from the Bahama Islands, the Brazilian Motmot (*Prionites Momota* Ill.) (*fig.* 1016.), the *Trichas velata* Sw. or Veiled Yellow-throat, a beautiful new Trogon, &c.; while the celebrated Mocking-bird of the United States (*Orpheus polyglottus* Sw.) is known to have a range over Jamaica, Cuba, and several other islands. Trinidad, however, appears to be the chief island for birds: the ruby-topaz, the ruff-necked, and the emerald-crested Humming-birds are particularly splendid; the crimson-throated Maize-bird (*Agelaius militaris* Vieil.), the Mexican Hangnest (*I. mexicanus* D.), and the Red-headed Tanager (*Aglaïa gyrola* Sw.) have all been sent from this island. Turkey Vultures of a large size, and entirely black, are not uncommon; but the precise species has never been clearly ascertained. Most of the North American summer birds pass the winter in these islands, which seem to be the farthest point of their southern range.

The wading and swimming birds have the same general character as those of the adjacent continent. Pelicans, Great White Herons, Flamingoes, and other well-known birds, haunt the salt-water marshes; while the Jacana, and a beautiful waterhen with a yellow bill and deep blue plumage, called the Martinico Gallinule (*fig.* 1017.) are common in fresh-water swamps. The Snake-neck or Darter is sometimes met with; its colour is dark, interspersed all over with innumerable white spots, while its long thin neck more resembles that of a serpent than of a bird (*fig.* 1018.).

1016

Brazilian Motmot.

1017



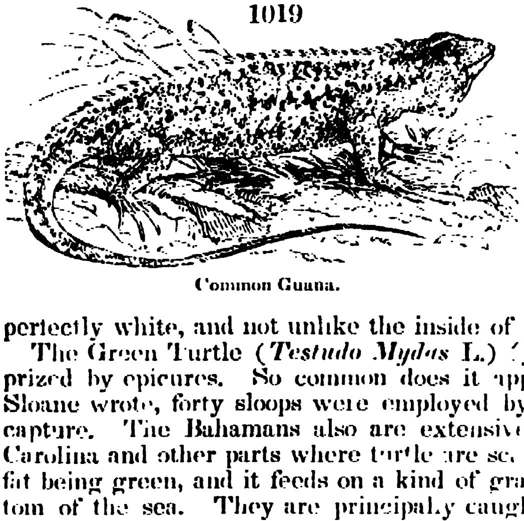
Martinico Gallinule.

1018

Snake-Neck or Darter.

We may pass over an enumeration of serpents and reptiles, to notice two which afford delicious food. The Guana lizard is by some thought as great a delicacy as the green turtle, and both these are common in the West Indies.

1019



Common Guana.

The Common Guana (*L. Iguana* L.) (*fig.* 1019.) is sometimes five feet long: its general colour is green, prettily variegated, but its hues are changeable, like those of the cameleon. According to Catesby, these animals are, or were, particularly abundant in the Bahama Islands, so as to constitute one of the chief articles of food with many of the natives; and Brown mentions them as inhabiting Jamaica. They are excessively nimble, and are hunted by dogs. Such as are not wanted for use are salted and barrelled. Guanas are also found on the continent; and when roasted, we can affirm that their flesh is peculiarly delicate, being tender, sweet, perfectly white, and not unlike the inside of a lobster's claw.

The Green Turtle (*Testudo Mydas* L.) (*fig.* 1020.) is that particular species so highly prized by epicures. So common does it appear to be in these seas, that, when Sir Hans Sloane wrote, forty sloops were employed by the people of Port Royal, Jamaica, in their capture. The Bahamans also are extensively concerned in this fishery, carrying them to Carolina and other parts where turtle are scarce. This species derives its name from the fat being green, and it feeds on a kind of grass, called turtle grass, which grows at the bottom of the sea. They are principally caught, says Catesby, in April, when the fishermen go in little boats to Cuba and the neighbouring islands, watch the turtle during the evening, turn them on their backs, and afterwards collect them at leisure

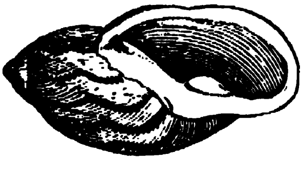
1020

Green Turtle.

1021

Cassis Cornuta.

1022



Plecocheilus Undulatus.

The marine shells are few, and, when compared with those of the Indian Archipelago, sink into insignificance. The largest are the Horned Helmet (*Cassis cornuta* L) (*fig.* 1021.) and the Strombus Gigas, with a pink mouth, both much esteemed for mantel-piece ornaments. Those inhabiting the land, on the contrary, are much more numerous than in Asia. Jamaica, in particular, produces a very great variety; while it is in the island of St. Vincent alone that the rare Plecocheilus undulatus (*fig.* 1022.) has hitherto been found.

The Insects offer nothing of particular interest to the unscientific reader, and it is a general remark, that in all islands the species are much fewer than upon continents. A very excellent naturalist, the late Reverend Lansdown Guilding, long resident in St. Vincent's, has recently discovered that the substance generally known by the name of seed pearl, and so frequently sent over in boxes with small shells, is the exuviæ of an insect which lives among, and preys upon, the ants. This substance has the appearance of roundish seeds, somewhat larger than those of the mustard, and of the same tint, yet shining with a rich gloss of gold; indeed, they might, by a superficial observer, be easily mistaken for grains of that precious metal. They are, however, very light, and, on close examination, a small hole will be perceived, through which the adult insect has made its escape from the shell, which is, in fact, the chrysalis.

Sect. III.—*Historical Geography.*

The grand career of discovery in the New World commenced with the West Indies. Columbus, in 1492, when he sailed to explore a new route to India, landed first on one of the Bahamas, and then on Hayti, or St. Domingo. He, and the navigators who immediately followed him, visited successively the different islands. They formed settlements, but were soon engaged in contests with the natives, whom they treated with such reckless cruelty, that the whole race were nearly exterminated. For about a century and a half these islands remained in possession of the Spaniards, though neglected by them for the more splendid regions of Mexico and Peru. During the 17th century they became the hold of a desperate band of outlaws and pirates, called Buccaneers, who waged with success a predatory warfare along the whole circuit of the Spanish main: at the same time, the English and French, not without some concurrence with these adventurers, sought to obtain possessions in this archipelago. Before the end of the century, the English were masters of Jamaica, the French held half of St. Domingo, and the two nations had divided between them nearly the whole of the Windward Islands. These acquisitions, though much inferior in extent and natural advantages to those still held by Spain, were so much better improved and cultivated, that they soon became of far superior value. This prosperity, however, was in some measure procured by means deeply to be deplored; the compulsory labour of numerous bands of slaves, who, conveyed from Africa under circumstances of the severest hardship, have become much the most numerous part of the population.

A memorable crisis in West Indian history took place in 1792, when the National Assembly of France passed rash decrees, abolishing all distinction of ranks, and proclaiming the complete equality of mankind. This step was soon followed by a general rising of the negroes in St. Domingo, who, after a long and bloody struggle, succeeded in establishing their independence, and in incorporating into their new state the Spanish part of the island. At the same time, the condition of the slaves in the colonies belonging to England drew the attention of the philanthropists of that country, who, after long representations and efforts, succeeded in procuring a complete prohibition against the further importation of negroes from Africa. Nor did they cease their efforts till arrangements were made which will ensure, in a few years, the entire liberation of this unfortunate class of human beings.

Sect. IV.—*Political Geography.*

The political relations of all these islands are subordinate to those of the mother country, to which they are subjected. In those belonging to Britain, the white proprietors are represented in houses of assembly, which exercise some of the functions of the British parliament. The limits between the two jurisdictions, however, have not been very precisely defined; and in several instances, particularly that of the treatment of the slaves, some rather serious collisions have taken place. Hayti, as already observed, forms an independent republic.

Sect. V.—*Productive Industry.*

An uncommon measure of wealth and prosperity was for a long time enjoyed by these islands. They flourished especially during the last century, when they supplied almost exclusively sugar, coffee, and other articles, the use of which had become general over the civilised world. After the French revolution and that of the negroes in St. Domingo, the islands belonging to Britain became almost the sole quarter whence Europe was furnished with West India produce. The prosperity thus caused excited in an extraordinary degree the envy of Napoleon, who made astonishing efforts to shut first France, and then the whole Continent, against all merchandise coming from Great Britain or her colonies. But this exclusion was never complete. The last twenty years have produced a very severe reverse. The great encouragement thus afforded led to an over-production, and consequent depreciation, which was further augmented by the competition that arose in South America and other quarters of the world, and also by the commercial depression in Europe. Hence it is complained that the prices obtained by West India cultivators have for some time ceased to be remunerating, and that it is only with great difficulty, and by incurring heavy incumbrances, that they have been able to continue their operations.

A sugar plantation forms a great manufacturing as well as agricultural establishment, in which a large capital must be invested. It cannot be carried on with advantage, especially since the fall in the value of produce, unless on a considerable scale; as the white servants and the machinery must be nearly the same on a small as on a large estate. Plantations, according to Mr. Hibbert, vary from 500 to 3000 acres, and from 100 to 500 negroes. An average one may contain 300 negroes, who may produce about 200 hogsheads of sugar. This will require 300 acres of land planted with cane, and 300 head of cattle, for the maintenance of which 600 acres will be requisite. For negro grounds and wood, 500 more will be necessary. The whole extent will thus be 1400 acres. The original price of good land is 10*l.*; the expense of clearing, 10*l.*; of planting. 10*l.*: in all, 30*l.*; making 4200*l.* of original outlay upon the land. The buildings and machinery are estimated as follows:—A mill, 400*l.*; warehouse, 1200*l.*; curing-house, 600*l.*; distillery, 600*l.*; copper and still, 2000*l.*; dwelling-house, 900*l.*; trash-houses, 310*l.*: in all, 7360*l.* currency, or 5250*l.* sterling; which, added to the cost of the land, makes 9450*l.* The expense of rearing a slave is reckoned by Mr. Hibbert at 86*l.* Of this, 36*l.* is supposed to be incurred the first year, including 20*l.* for loss of the mother's labour; in the next thirteen years he allows annually 2*l.* for food, 1*l.* 1*s.* for clothes, 16*s.* 8*d.* for medicine, taxes, &c. By the age of fourteen, the labour of the negro is supposed more than to compensate his maintenance. The negroes of a great plantation are divided into three gangs: the first of which, composed of the most vigorous and active, amounts to about seventy-seven; the second, to thirty-one; the third, to twenty-seven. Besides these there are eleven grass-cutters, fifteen watchmen and cooks; nine drivers of mules and carts; twenty-eight masons, carpenters, smiths, and coopers; twelve for attending cattle; seventeen overseers; twenty-one hospital attendants; six for watching grounds, &c. The export of sugar to Britain, during the year 1832, amounted to 3,585,188 cwts., which, at 28*s.* per cwt., amounts to 5,119,000*l.*, and the duty, at 24*s.*, was 4,352,000*l.* The exportation of rum, in 1832, amounted to 4,753,789 gallons, the value of which, at 2*s.* 9*d.* a gallon, would be 753,644*l.* Of this amount, 3,513,000 gallons, retained in Britain for home consumption, paid a duty of 1,570,000*l.*

Coffee ranks next to sugar in importance, and, though introduced from a remote quarter of the world, has been cultivated with such success, that the coffee of Berbice and Jamaica ranks second to that of Mocha, and superior to that of any other country. Within the last few years, however, the competition from other quarters has been so great as to give the planters occasion to complain that it is still more unproductive than sugar, and its culture has in consequence somewhat declined. The importation into Britain, in 1832, amounted to 24,600,000 lbs., the value of which, at 6*d.* a pound, may be 685,700*l.* A few other articles, though very secondary to those above mentioned, are produced in these islands. Cotton was formerly considered one of their staples. In 1786, the produce was 5,800,000 lbs.; and in 1828, it was almost the very same, or 5,890,000. But this amount, which in the first period was nearly a third of the whole British consumption, was in the second period not a fortieth part of that consumption. In 1831 and 1832, it averaged only 1,950,000 lbs. The United States have supplanted the islands, both as to the abundance and quality of this commodity. Yet the cotton of the latter, though inferior to the best American, still maintains a respectable price in the market. Cacao, the principal material of chocolate, has also much declined, chiefly perhaps on account of that beverage being almost entirely disused in Britain. The recent reduction of duty, however, may probably lead to an extended consumption. The average of 1831 and 1832 was 1,050,000 lbs.

Manufacturing industry, from the peculiar state of society in these islands, scarcely exists, even in its humblest form, for domestic use.

Commerce, on the contrary, is carried on to a much greater extent than in any other country of the same wealth and populousness. Almost every product of West Indian labour is destined for the market of the mother country, from which in return these islands receive all their clothing, and a great proportion of their daily food. They supply the British empire with nearly all the sugar, rum, and coffee consumed in it.

In 1832, the shipping employed in the trade between Britain and the West Indies was to the following amount:—Inwards, 828 ships, 229,117 tons, and 12,656 men. Outwards, 803 ships, 226,105 tons, and 12,804 men. The value of the imports in 1829 was 9,807,914*l.*; of the exports, 3,612,075*l.* The leading articles of import were, 4,152,614 cwt. sugar; 6,934,759 gallons rum; 26,911,785 lbs. coffee; 4,640,414 lbs. cotton; 684,917 lbs. cacao; 390,626 cwt. molasses; 3,585,694 cwt. pimento; 6,081 cwt. ginger; 13,285 tons mahogany; 9748 tons logwood; 2105 tons fustic; 212,000 lbs. indigo; 63,850 lbs. cochineal; 9041 lbs. castor oil; 128,536 lbs. sarsaparilla; 6345 lbs. pepper. The articles of export from Britain, stated according to their value, were, cottons, 1,050,280*l.*; linens, 385,303*l.*; woollens, 120,192*l.*; silks, 19,383*l.*; apparel, 251,192*l.*; hats, 56,594*l.*; manufactures of iron and steel, 163,197*l.*; of brass and copper, 67,220*l.*; hardware, 90,101*l.*; tin, 15,637*l.*; lead, 10,026*l.*; earthenware, 30,259*l.*; leather, 116,512*l.*; saddlery, 26,267*l.*; beef and pork, 113,831*l.*; beer, 55,565*l.*; butter and cheese, 79,488*l.*; fish, 94,165*l.*; cordage, 23,537*l.*; coals, 32,523*l.*; soap and candles, 117,168*l.*; glass, 76,660*l.*; painters' colours, 30,042*l.*; plate, 29,500*l.*; stationery, 23,827*l*,; books, 10,893*l.*

The West Indies also carry on an extensive intercourse with the United States and the British colonies in North America, to which they send their staple productions, and receive in return grain, provisions, fish, and timber. The trade with the British colonies employed, in 1831, 486 ships of 75,896 tons, with 5074 men, outwards. That from the United States in the same year employed, according to Mr. Bliss, 58,825 tons, of which more than two-thirds were American.

SECT. VI.—*Civil and Social State.*

The population of the different portions of the West Indies has been ascertained with varying degrees of accuracy. Reserving more precise details for the local section, we shall give the following, as a near approximation of the whole:—

Spanish islands	1,000,000
British (inclusive of Demerara)	788,000
Hayti	800,000
French islands (inclusive of Cayenne)	222,000
Other European islands (including Dutch Guiana)	150,000
	2,960,000

Of these it is probable not above 500,000 are Europeans; the rest are of negro origin, and, unless in Hayti, the greater part of them are in a state of slavery.

The social state of these islands is peculiar and painful. The population consists of three portions, between which scarcely any sympathy exists:—1. The whites; 2. the slaves; 3. the mixed population and emancipated negroes. On a subject which has excited so much interest, and given rise to so many controversies, into which our plan forbids us to enter, some very general observations will be sufficient.

The whites, who form so small a part of the population, are the masters, in whom all the power and property centre. They consist, partly of proprietors superintending the cultivation of their own lands, partly of agents and overseers employed by owners residing in Britain. As a body, they do not merit many of the reproaches thrown upon them by the zealous friends of humanity. Inheritance rather than choice has placed most of them in circumstances of severe trial and difficulty. Some of them have abused their inordinate power in deeds of wanton cruelty, which have brought a stain upon the whole body; but such conduct does not appear to be general, and others have distinguished themselves by showing to their slaves every degree of indulgence of which their unfortunate situation admitted. In their intercourse with each other, the planters are peculiarly frank, liberal, and hospitable. They are strongly animated by a spirit of liberty, and even a sense of equality, which may seem strangely inconsistent with their habits and situation. Yet the same anomaly has occurred in Greece, in Rome, and in the United States of America. The sanguine temper, and extravagant estimate of their wealth, with which Mr. Edwards reproaches them, is likely to have been effectually cured by the great reverses which they have recently experienced.

The slaves form the most numerous part of the population; but their situation has been the subject of so much controversy, that a precise estimate of it would be difficult. They are undoubtedly in a worse situation than the serfs of Europe, who were merely attached to the soil, and obliged to deliver a certain portion of what their labour had drawn from it. Their lot is harder also than that of the Oriental slave, who, employed as a domestic servant, rises often to the rank of a favourite. The West Indian slave is placed continually under the lash of a taskmaster, and is regarded only according to the amount of labour which can be extracted from him. It never can, however, be the interest of the master to inflict physical injury on his slave, or to withhold whatever is necessary to preserve him in health and vigour. The bondsman has even an assurance of being supplied with the necessaries of life more complete than is possessed by the labouring classes in a free community. Yet this very security tends to degrade their character, and to prevent them from acquiring habits of reflection and foresight. Their lot must depend too entirely on the personal character of their master or overseer: those who are fortunate in this respect may enjoy much comfort; but others have no sufficient protection or redress against the bursts of passion and caprice to which human nature invested with power is liable. Edwards seems to admit their liability to the vices to which men are exposed, when held in a state of degradation: these are, dissimulation, a propensity to pilfer, and a proneness to low sensual indulgence. It is impossible not to look forward with interest and hope to the recent arrangements of the British legislature, by which this bondage is converted into a species of apprenticeship, and at the end of seven years is to be entirely abolished; while the planters are to be indemnified by having distributed among them the large sum of 20,000,000*l.* sterling, to be raised by small additional taxes on the principal articles of West India produce.

A considerable part of the negro population have already obtained their liberty, which was either granted by masters who had conceived an attachment to them, or earned by the industrious employment of their leisure hours. The intercourse, also, between the black and white races has produced a number of mulattoes, who are never enslaved. This class, however, have not derived all the advantages which should naturally have followed from the possession of freedom. They considered it inconsistent with their situation to share the toils of their enslaved brethren, yet had little means of attaining any higher employment. They were excluded from all intermarriage or association with the ruling class, and from all offices of trust or importance; their testimony in many cases was not received by a court of justice. The females, despising the young men of their own class, form, very generally, illicit connections with Europeans, though it is said that their general behaviour is modest, and that they view this tie in nearly the same light as marriage. On the whole, the character and deportment of the freed negroes, when existing as a detached and degraded class, cannot be taken as a criterion of that which they would exhibit when invested with the rights of citizens, and forming the main body of the people.

Sect. VII.—*Local Geography.*

The division of the West India Islands, as they appear interesting to us, is, according to the nations by whom they are occupied, into British, Spanish, French, Dutch, to which are to be added a few Danish and Swedish, and, finally, the independent negro republic of Hayti.

Subsect. 1.—*British Islands.*

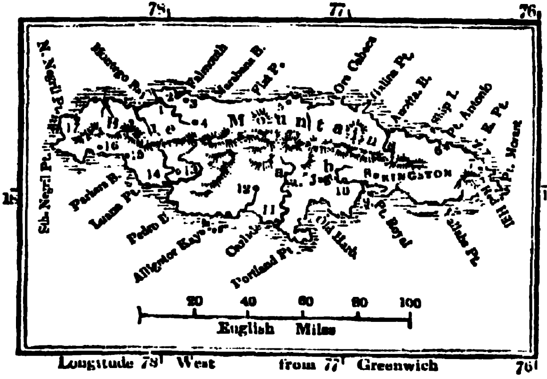
The British possessions, though not the most extensive or naturally fruitful, are, since those of France have sunk into secondary importance, undoubtedly the best cultivated, most wealthy, and productive. Perhaps no part of the globe, in proportion to its extent, yields such an amount of valuable commodities for exportation. The following table exhibits the population and commerce of each of these islands.

Places.	Whites.	Free Coloured.	Slaves.	Produce of			General Value of	
				Sugar.	Rum.	Coffee.	Imports into Britain.	Exports from Britain.
				Cwts.	*Gallons.*	*Lbs.*	£	£
Antigua	1,370	3,020	29,537	158,611	155,514	242	146,657	123,101
Barbadoes	15,029	4,326	81,500	336,881	2,357	334	369,828	293,417
Dominica	791	4,077	15,392	60,063	38,321	1,016,631	27,478	21,583
Grenada	2,154	2,450	23,604	213,160	298,933	28,541	93,015	88,247
Jamaica	37,152		322,421	1,379,347	3,213,503	19,758,603	2,761,483	1,684,726
Montserrat	330	814	6,262	20,646	49,075	- - - -	830	7,531
Nevis	700	2,000	9,142	54,236	51,213	1,362	25,224	21,156
St. Christopher's	1,612	3,000	19,085	133,452	219,706	44	97,251	71,717
St. Lucia	866	2,828	13,348	86,071	12,817	113,517	51,505	37,684
St. Vincent	1,301	2,824	22,997	261,551	173,262	124	99,891	94,045
Tobago	285	1,195	12,091	93,471	428,810	- - - -	51,568	49,326
Tortola and Virgin Islands	477	1,296	5,399	17,099	- - - -	- - - -	5,666	4,922
Anguilla	365	327	2,388					
Trinidad	3,683	16,302	23,776	204,987	12,941	54,502	361,077	252,851
Bahamas	4,240	2,991	9,705	- - - -	- - - -	195,637	51,524	39,571
Bermudas	4,181	1,068	4,371	894	2,967	- - - -	21,817	22,490
Demerara	3,006	6,360	65,556	780,286	1,859,710	3,447,426	502,235	487,585
Berbice	523	1,161	20,615	110,967	234,618	2,316,509	51,587	51,215

This table will afford an accurate notion of their relative importance, and will render unnecessary any minute details respecting a region which presents in general so uniform an aspect.

Jamaica is the largest and most valuable island in the British West Indies. The lofty range of the Blue Mountains in the interior, covered with ancient and majestic forests, gives to its landscapes a grand and varied aspect. From these heights descend about a hundred rivers, or rather rills, which dash down the steeps in numerous cascades, and, after a short course, reach the sea. From these elevated tracts the island is supplied with the vegetable productions of a temperate climate; and the Guinea grass, which has prospered remarkably, enables the planters to maintain numerous and valuable herds of cattle. Yet the soil is considered to be by no means universally good, and its actual fertility is ascribed in a great measure to diligent manuring and cultivation. The abundance of water must always be a main source of fertility in tropical countries. The rum of Jamaica is considered superior to that of any of the other districts; but its coffee ranks second to that of Berbice. Pimento, the plantations of which are extremely ornamental, is peculiar to this island, and has been often termed Jamaica pepper. With her natural and

Fig. 1023. MAP OF JAMAICA.



References to the Map of Jamaica.

1. Montego
2. Martha Brae
3. Falmouth
4. Trelawney
5. St. Anne
6. Port Antonio
7. Manchineel
8. Kingston
9. Port Royal
10. Spanish Town, or St. Jago
11. Carlisle
12. St. Dorothy
13. Lacovia
14. Blackbirch
15. Bluefields
16. Savanna la Mar
17. Lucea.

Rivers.

a Minho
b Cobre.

acquired advantages, however, Jamaica has not been preserved from the pestilential influence of the climate, which renders it extremely dangerous to European constitutions.

The towns of Jamaica, as of the other islands, are all sea-ports, and supported by commerce. Spanish Town, or Santiago de la Vega, the most ancient, and still the seat of the legislature and courts, is of comparatively little importance, and has not more than 4000 or 5000 inhabitants. Port Royal, possessed of a secure and spacious harbour, was, in the end of the seventeenth century, enriched both by the trade of the island, and the contraband traffic with the Spanish main. It was then, with the exception of Mexico and Lima, the most splendid and opulent city in the New World. Suddenly an earthquake swallowed up the greater part of the city and its inhabitants. Yet the advantages of its situation caused it to be soon rebuilt, and ten years after, when it had been burnt to the ground, it was reared again from its ashes. But in 1722 it was assailed by a hurricane, the most dreadful ever known, even in these latitudes. The sea rose seventeen or eighteen feet, undermined and overthrew a great part of the houses; the shipping in the harbour was entirely destroyed, with the exception of a few large vessels, which had only their masts and rigging swept away. Port Royal, being then viewed as a fatal spot, was abandoned for Kingston, and is now reduced to 200 or 300 houses. The fortifications, however, which are very strong, are still kept up, and the navy-yard is maintained there. Kingston, about twenty miles N.E., is now the principal town of Jamaica. It is situated in a fine plain, extending six miles in breadth to the foot of the mountains. Its commerce, though not equal to what that of Port Royal once was, is great, and is favoured by a spacious and commodious roadstead. Its population exceeds 30,000. All these towns are on the south-eastern coast, which is the most level and fertile, and most favourable for trade. Montego Bay, a place with about 4000 inhabitants, carries on the more limited commerce of the northern coast. Savanna la Mar, in the west, is little more than a village, since it was nearly destroyed by the hurricane of 1780; yet it has a good harbour, and a little trade. The Grand and Little Cayman, which are inhabited only by a few hundred fishermen and pilots, may be considered as appendages to Jamaica.

Barbadoes is the island which ranks next in value and importance; indeed, it was the earliest settled and improved of all the English possessions. Having been founded during the period of the civil wars, it afforded a refuge to persons of various parties who successively suffered persecution. It thus made very rapid progress, and in 1650 there were estimated to be 20,000 white men in the island, half of whom were able to bear arms. It has been alleged to have undergone a considerable decline towards the end of the eighteenth century, in consequence of the dreadful hurricanes with which it has been ravaged, and of the exhaustion of the soil, which now requires manure in order to maintain its fertility; yet the population and produce were greater in 1829 than in 1753, the supposed period of its highest prosperity. Barbadoes, having no mountains in the centre, is less copiously watered than the other Antilles; and, being farther out in the Atlantic, is peculiarly exposed to the general scourge of hurricane. Its soil, though deficient in depth, being composed chiefly of a fine black mould, is well fitted for the culture of sugar; and its rich plantations, diversified by the gentle hills which rise in the interior, present a delightful landscape. Bridgetown, the capital, is one of the gayest and handsomest towns and one of the strongest military posts, in the West Indies, containing above 20,000 inhabitants. It has an excellent harbour, much frequented, not only for the trade of the island, but by vessels which, in consequence of its easterly position, reach it before any of the other islands, and touch there for refreshment.

St. Christopher's, known often by the familiar appellation of St. Kitt's, is not the next in importance; but, on account of its early settlement, may be noticed here, in preference to recent acquisitions. It was first occupied by the English in 1623; and, though repeatedly disputed by the Spaniards and French, has, with the exception of some short intervals, remained in the possession of Britain. The interior, rising into the lofty peak of Mount Misery, is peculiarly rugged and mountainous, but the plain along the sea surpasses in richness and beauty that of any of the other islands, abounding in the black mould which is peculiarly fitted for sugar. Basseterre, the capital, on the south-west coast, contains 6000 or 7000 inhabitants.

Antigua, to the east of St. Christopher's, is by no means so uniformly fertile; a large proportion consisting of a stiff clay, which yields only bad grass. Being deficient in springs or rivulets, water is procured only by preserving the rain in cisterns, and in years of drought the crop sometimes entirely fails. In favourable seasons, however, there is a very considerable produce of sugar. Antigua, St. Christopher's, and several others now to be mentioned, form what are called the Leeward Islands, which, running from east to west, are supposed to be less exposed to the action of the trade wind. All the Leeward Islands have one governor, who resides at Antigua. Hence John's Town, its capital, admired for its agreeable situation and the regularity of its buildings, derives a considerable degree of importance, and is a favourite resort. It has about 15,000 inhabitants. English Harbour, on the southern coast, with a royal dock-yard, is an important naval station.

The other Leeward Islands consist of Montserrat, Nevis, Barbuda, Anguilla, and the Virgin Islands. The first is agreeable and picturesque, but by no means fertile. Nevis is a small, but beautiful and fertile island, consisting of one conical mountain above twenty miles in circuit. Charlestown is the capital. Barbuda and Anguilla, still smaller, are also fertile, but little cultivated: Anguilla has a valuable salt-pond; the tobacco of Barbuda is particularly esteemed. The Virgin Islands are, upon the whole, the most arid and least productive of any in the West Indies. They are numerous, and in some degree shared by the Spaniards and Dutch; but Tortola, the only one of much consideration, Anegada, and Virgin Gorda, belong to the English.—The islands now enumerated include all that were originally settled and colonised by Britain. But conquest within the last seventy years has conveyed to her others of great value, by which her possessions in this quarter of the world have been nearly doubled. Part of these were captured during the war which closed in 1763, others in that which broke out on occasion of the French revolution.

Dominica stands in the former predicament. It is a large island, but not productive altogether in proportion to its extent, much of the surface being mountainous and rugged. Several of its volcanic summits throw out from time to time burning sulphur, but they do not act to any destructive extent. It is interspersed, however, with fertile valleys; a large quantity of coffee is raised on the sides of the hills. Roseau, or Charlottetown, the capital, is by no means so flourishing as before the fire of 1781; it is well built, but many of the houses are unoccupied. Its population may amount to 5,000.

St. Vincent's, ceded by the same treaty, is one of the most elevated and rugged of the Antilles. It contains the only very active volcano in these islands, which, after being dormant for a century, burst forth in 1812 with tremendous violence, exhibiting the most awful phenomena. Several plantations were destroyed, and almost all those on the eastern coast were covered with a layer of ashes ten inches deep. The peak of Morne Garou is nearly 5000 feet high. Yet the intermediate valleys, being fertile in a high degree, render St. Vincent's on the whole a very productive island. It contains small remnants of the native Carib race, mingled with some free negroes, who were early introduced, and have adopted many of the Indian usages. Kingston, the capital, has been supposed to contain 8000 inhabitants.

Grenada exhibits a considerable variety of surface, which, on the whole, however, is extremely productive, and renders it an important acquisition. The scenery, though not so grand as that of some of the others, is peculiarly beautiful, and has been compared to that of Italy. St. George, the capital, named formerly Fort Royal, possesses one of the most commodious harbours in the West Indies, and has been strongly fortified. The Grenadines, or Grenadillos, lying between Grenada and St. Vincent, produce some sugar and coffee.

Tobago, or Tabago, the last of the cessions of 1763, is a small but fertile and beautiful island. Notwithstanding its southerly situation, the heat is tempered by breezes from the surrounding ocean, while at the same time it appears to be out of the track of those hurricanes which have desolated so many of the other islands. It yields the fruits and other products common to the West India islands with those of the bordering Spanish main. Scarborough, a town of about 3000 inhabitants, is its capital.

St. Lucia, an important island, was finally ceded to Great Britain in 1815. Its high peaks, called Pitons by the French, and sugar-loaves by the English, are visible at some distance at sea. The soil is productive, but the climate is unhealthy. On the western side is Port Castries, or Carenage, one of the best harbours in these islands. The town has a population of about 5,000 souls.

Trinidad, separated only by a strait from the coast of South America, where that mainland is traversed by the branches of the Orinoco, shares in a great measure its character. It is covered with magnificent forests, and presents scenery peculiarly grand and picturesque. The island is unhealthy, but fruitful, and being largest next to Jamaica, forms an acquisition of great value. It was Spanish till 1797, when it was captured, and confirmed to Britain by the treaty of Amiens. One remarkable object in this island is a lake of asphaltum three miles in circumference. This substance, being rendered ductile by heat, and mingled with grease or pitch, is employed with advantage in greasing the bottoms of ships. Trinidad contains still about 900 native Indians. Port Spain (Puerto España) is a considerable town, well fortified, and with an excellent harbour. It is built regularly and handsomely, with a fine shaded walk and spacious market; and the churches, both Protestant and Catholic, are very richly ornamented.

Demerara, Berbice, and Essequibo, extend along the coast of Guiana; but they participate so largely in the character of West India colonies, that a view of them is necessary to complete that of these important settlements. They are also of recent acquisition, having belonged to the Dutch till the last war, when they yielded to the naval supremacy of Britain, and were confirmed to that power by the treaty of 1814. They extend about 300 miles along the coast, and each colony is situated at the mouth of a broad river, bearing its own name. The territory is low, flat, alluvial, and in many parts swampy; and the greater portion, when it came into the possession of Britain, was covered with dense and almost impenetrable forests. Since that time a prodigious improvement has taken place; British industry has cut down the woods, and, availing itself of the natural fertility of the soil, has rendered this one of the most productive regions in the New World. Demerara, as will appear by the commercial table, ranks as to West India produce second only to Jamaica: its rum is inferior only to hers; and the coffee of Berbice ranks above that of any of the islands. Staebroek, now St. George, is built on the low bank of the river Demerara. The houses are of wood, seldom above two stories high, and, with a view to coolness, are shaded by colonnaded porticoes and balconies, and by projecting roofs; and Venetian blinds, or jalousies, are used instead of glass windows. Canals are conducted on each side of the town, which presents a busy scene, every road being like a wharf strewed with casks and bales. The town contains from 8000 to 10,000 inhabitants, mostly negroes, with a considerable proportion of people of colour, some of whom have attained to considerable wealth. New Amsterdam, the small capital of Berbice, is agreeably situated, intersected by canals, and with a considerable spot of ground attached to each house.

The Lucayos, or Bahama Islands, form a very extended and numerous group, being successively parallel, first to Florida, then to Cuba and part of Hayti. The group comprises about 650 islets and islands, of which only 14 are of considerable size; the rest are mere rocks and islets, called here keys, or kays, from the Spanish *cayo*. These islands were very much neglected till about the beginning of the last century, when a British settlement was formed there under Captain Woodes Rogers. The Bahamas, notwithstanding their favourable situation, have never been productive in the West India staples. The soil is in general arid and rocky; and even those islands which might be capable of improvement have been neglected. Cotton is the only article which has been cultivated to any extent, and even this has declined. They produce, however, a considerable variety of fine timber and dye-woods, and some of them supply the neighbouring coasts with salt. Between the western islands and the coast of Florida is the Bahama channel, through which that celebrated current called the Gulf Stream, from the Gulf of Mexico, rushes with such impetuosity that it is perceptible upon the northern coasts of Europe. Its force renders the passage extremely dangerous, and has given occasion to frequent wrecks. The principal islands are the Great Bahama and Abaco, on the Little Bahama Bank; Eleuthera, New Providence, Guanahani, or St. Salvador, or Cat Island, remarkable as the point first discovered by Columbus, Yuma, and Exuma, on the Great Bahama Bank; and Mayaguana, Inagua, the Cayeos and Turks' islands, further south. The difficulty of navigation in these seas is increased by the great bank of Bahama, interposed between Cuba and these islands. Nassau, in the island of New Providence, from its situation upon this frequented channel, is a place of some importance. It is the general seat of government, and contains a population of about 5000 persons.

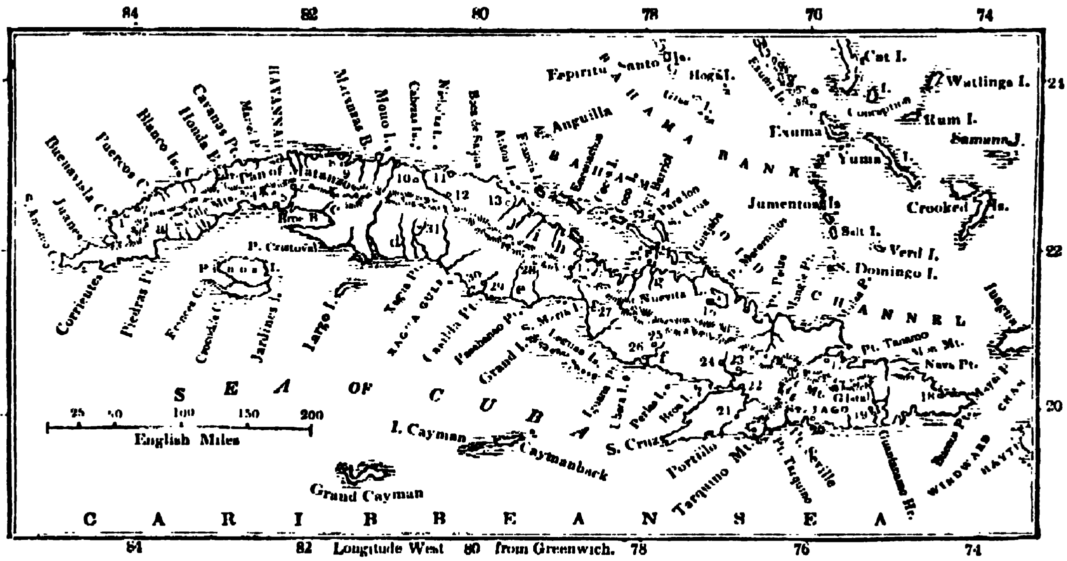
The Bermudas, situated in the midst of the Atlantic, about 600 miles east from the coast of North America, may, for want of a more appropriate place, be described here. About 400 are numbered; but most of these are mere rocks, and only eight possess any real importance. These islands, which began to be settled about 1612, drew for some time greater attention than their natural advantages justified. During the internal troubles which soon after took place in Great Britain, they became the asylum of many distinguished personages, and among others of the poet Waller, who, by celebrating the beauty of their aspect and the felicity of the climate, spread around them a poetical lustre. The Bermudas are indeed in these respects peculiarly fortunate; being exempted from the scorching heats of the tropic, enjoying almost a continued spring, and being clothed in perpetual verdure. But though they afford thus an agreeable and healthful residence, they have not proved productive in any of those commodities which can become the staple of an important traffic. Cotton has been tried, but without any great success. They have been used as a place of deportation for criminals, but in this respect are now superseded by the Australian settlements. The rocky nature of the coasts renders them easily defensible, but unfavourable to navigation. St. George, the seat of government, on an island of the same name, is only a large village.

SUBSECT. 2.—*Spanish Islands.*

The western colonies of Spain, which for some centuries comprised the greater part of the American continent, with all its richest and most splendid regions, are now limited to the two islands of Cuba and Porto Rico. Yet these are so considerable and so fruitful, that, since a more liberal policy has been adopted towards them, they have in no small degree compensated for her immense losses.

Cuba, the finest and largest of the West India islands, is about 780 miles in length by 52 in mean breadth, and has a superficial area of 43,500 square miles, being nearly equal in extent to all the other islands taken together. It is traversed throughout its whole extent by chains of mountains, whose highest peaks, Potrillo and Cobre, attain an elevation of more than 8,500 feet; and the plains beneath are copiously watered, and rendered fit for producing in the highest perfection all the objects of tropical culture. The climate, particularly in the western part, although tropical, is marked by an unequal distribution of heat at different seasons, indicating a transition to the temperate zone. The mean temperature

Fig. 1024.



References to the Map of the Island of Cuba.

1. S. Isabela
2. Nombre de Dios
3. Honda
4. S. Felice
5. Batavano
6. Havana
7. Limones Grandes
8. S. Carlos
9. Matanzas
10. Elzeyo
11. Carajatas
12. Villa Clara
13. S. Juan de los Remedios
14. Gertrudio
15. Marcelina
16. Nuevitas
17. Port Nipe
18. Baracoa
19. Balibonica
20. S. Jago de Cuba
21. Tarquino
22. S. Salvador de Bayama
23. Ochoa
24. Arnas
25. Villa del Principe
26. S. Juan
27. Negrillo
28. Espiritu Santo
29. Casilda
30. Trinidad
31. Camarones.

Rivers.

a Calafia
b Bacunagua
c Broa
d Caranero
e Talabacoa
f S. Juan
g Juanaga
h Navio
i Palmas
j Maniquinar.

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is 78°, but in the interior and eastern part only 73°. The hottest months do not average more than 84°–85°, and the coldest present a mean temperature of about 70°. Ice sometimes forms at night after a long continuance of the northers, but snow never falls. Hurricanes are of much less frequent occurrence than in the other islands. The situation of Cuba, commanding the entrance of the Gulf of Mexico and the communication between North and South America, gives it a high commercial and political importance; yet Spain long viewed it merely as the key of her great possessions, and the passage by which she reached them; and this great island did not, in the value of its produce, equal some of the smallest of the Antilles. But during the last thirty years a concurrence of circumstances has rendered it the richest of the European colonies in any part of the globe, and proved the justice of the remark of Abbe Raynal, that *l'ile de Cuba pourrait seule valoir un royaume*. Within the period last mentioned, and especially since the separation of the continental colonies from the mother country, a more liberal and protecting policy has been adopted; the ports of the island have been thrown open; strangers and emigrants have been encouraged to settle there; and, amid the political agitations of the mother country, the expulsion of the Spanish residents from Hispaniola, the cession of Louisiana and Florida to a foreign power, and the disasters of those who in the continental states of America adhered to Old Spain, Cuba has become a general place of refuge. Its progress, from these causes, has been most extraordinary. At the close of the last century, it was obliged to draw from the rich colony of New Spain the sums necessary for the support of its civil administration and the payment of its garrisons; of late years it has been able not only to provide for its own exigencies, but to afford important aid to the mother country in her contest with her revolted colonies. In 1778, the revenue of the island amounted to 885,358 dollars; in 1794, to 1,136,918 dollars; and in 1830, to no less than 8,972,548 dollars, a sum superior to the revenue of most of the secondary kingdoms of Europe. Nor has the progress of its population been less remarkable; in 1775, it amounted to only 172,620; in 1827, it had increased to 704,487. The inhabitants have applied themselves with surprising success to the culture of the great West India staples, sugar and coffee; between 1760 and 1767, the exports of sugar amounted to only 5,570,000 lbs.; in 1832, they are believed to have exceeded 250,000,000 lbs. In 1800, there were only 80 coffee plantations on the island; in 1827, they amounted to 2067.

Four censuses have been taken of the population of Cuba, giving the following general results; in 1775, 171,620 souls; in 1791, 272,301; in 1817, 593,033; in 1827, 704,487. The following table shows the character of the population at the first and last named periods:—

	1775.	1827.
Whites	96,440	311,051
Free Mulattoes	19,327	57,514
Free Blacks	11,520	48,980
Slaves	44,333	286,942
Totals	171,620	704,487

The great increase of the black population is owing to the direct introduction of slaves from Africa, which has been continued with great activity till the present time, although the trade was to have entirely ceased in 1820. It appears that at least 372,500 of these unhappy persons were imported into the island from 1521 to 1820; and within the last few years, it is stated that forty or fifty vessels have regularly cleared out for Africa, as for an ordinary trade, but with the well understood object of practising this nefarious traffic. This mode of supply is accompanied by the distressing circumstance of the great inequality of the sexes (the number of male slaves being 183,290, to 103,652 females), the female slaves on a plantation being seldom much more than a third of the whole, and often bearing a much smaller proportion, since the masters find it cheaper to purchase than to rear.

The principal articles of export from Cuba are sugar, rum, molasses, coffee, wax, tobacco, and cigars, with honey, hides, cotton, fruits, &c. The principal imports are corn and grain of all sorts, lumber, dried fish, and salt provisions chiefly from the United States; cotton goods, hardware and various other manufactured articles, such as hats, shoes, cabinet-ware, carriages, &c., from the United States and Great Britain; linens from Germany and Ireland; silver and gold, indigo and cochineal, from the Spanish-American states; wines, spirits, &c. from France and Spain, with such other articles of luxury and use as an opulent agricultural community, in a tropical climate, requires. The total value of the imports for the year 1833, amounted to no less than $18,511,132; of exports, to $13,996,100. The principal articles of export for the years 1827, 1830, and 1833, were as follows:

Years.	*Sugar.* Arrobas.	*Coffee.* Arrobas.	*Molasses.* Hhds.	*Rum.* Pipes.	*Wax.* Arrobas.	*Leaf Tobacco.* Arrobas.	*Cigars.* Arrobas.
1827	6,237,390	2,001,583	74,083	2,457	22,403	79,106	167,361
1830	7,868,881	1,798,598	66,219	5,595	38,741	160,358	407,152
1833	7,624,553	2,566,359	95,768	3,227	41,536	92,475	617,713

This statement, however, is only the custom-house report, which assumes that a box of sugar weighs but 15 arrobas,* whereas its true weight is at least 16, and estimates the bags of coffee at 150 lbs., though it is well known that they often exceed that limit. The following table shows the extent of the commercial transactions of Cuba with other countries in the year 1833.

Countries.	Imports.	Exports.
Spain	$1,013,730	2,713,525
United States	4,462,500	4,384,900
Great Britain	1,625,172	911,000
Spanish-American States	1,371,325	19,680
Hanse Towns	931,375	1,504,120
France	927,980	531,300.

Havana, or the Havannah, the capital of Cuba, is one of the greatest and most flourishing cities of the New World. It once carried on the whole, and still retains more than two thirds of the commerce of the island. The harbour is admirable, capable of containing a thousand large vessels, and allowing them to come close to the quay: its narrow entrance has been found disastrous when fleets were seeking shelter from a pursuing enemy. The fortifications, particularly the Moro and Punta castles, are remarkably strong; but in 1762 they yielded to the British fleet, which captured nine sail of the line, and merchandise to the value of about 3,000,000*l.* sterling. Since that time, however, the works have been so carefully strengthened as to make the place nearly impregnable; and during the late war, while the British navy was generally so triumphant, no attempt was made to reduce the Havannah. The arsenal and dock-yard are also on a large scale. The city presents a magnificent appearance from the sea, its numerous spires being intermingled with lofty and luxuriant trees. The churches are handsome and richly ornamented; and several private mansions are reckoned to be worth above 60,000*l.* each. The interior, however, for the most part consists of narrow, ill-paved, and dirty streets, crowded with merchandise and wagons, and presenting entirely the appearance of busy trade. Yet the alameda, or public walk, and the opera, on the appearance of a favourite performer, exhibit a gay and even splendid aspect. The recently constructed suburbs are also built in a superior style. The Havannah has patriotic and literary societies, which are improving. Seven journals are published, one of them in English. The population by the census of 1827 was 112,000, and has since considerably increased.

Other towns in Cuba have risen to importance, only since the monopoly of the trade, so absurdly conferred on Havana, has been withdrawn. Matanzas, about sixty miles east of the capital, is pleasantly situated on a low plain not much above the level of the sea, and is now the second commercial town in the island. The harbour is capacious, easy of access, and sheltered from all winds, except those from the north-east, which are not dangerous here. The population of the place amounts to about 15,000. In 1830 it exported upwards of 50,000,000 lbs. of sugar, and nearly 8,000,000 lbs. of coffee; 220 vessels entered, and 304 left its port in that year. As the vicinity is rapidly becoming settled and brought under cultivation, its importance is daily increasing. Trinidad is one of the most populous and thriving places on the island since the removal of the restrictions on its trade. It is well built, and standing on the southern shore, it is beyond the influence of the northers which are experienced on the other side of the island. Its harbour is capacious, but exposed, and its commerce considerable. Population 12,500. To the west lies Xagua, a small town, but having one of the best harbours in the world formed by the magnificent bay of the same name.

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* The arroba is 25 lbs.

Puerto Principe, situated in the interior, is a poor, dirty, and ill-built town, in a wet spot, which in many places is only passable on raised footpaths. Its inland trade is considerable. By the census it appears to have a population of 49,000 inhabitants, but its permanent population is much less, a great number of the individuals registered here, having merely retired into the town from the neighbourhood during the rainy season. The little town of Nuevitas, lately founded on a bay of the same name on the northern coast, serves as its port.

In the eastern part of the island is Santiago de Cuba, once the capital of Cuba. It suffered much by the transfer of the seat of government to Havana, but since the opening of its port in 1778, it has shared in the general prosperity. Although its harbour is one of the best in the island, yet Cuba labours under a deficiency of good water, and its hot and moist climate renders it unhealthy. It is one of the oldest and best built towns of the colony, and contains 26,740 inhabitants. Bayamo or San Salvador, an old town in the interior, has a population of 7,500 souls. Its port is the thriving little commercial town of Manzanillo, with 3,000 inhabitants. To the west is Holguin, with 8,000 inhabitants, and at the eastern extremity of the island is Baracoa, now much reduced, but remarkable as the first settlement formed by the Spaniards on this beautiful island.

Porto Rico or Puerto Rico, the smallest of the Great Antilles, is about 100 miles in length by 36 in mean breadth, and has a superficies of 4,000 square miles. Although inferior to none of the islands in fertility and general importance, it was long neglected by Spain, and until the beginning of the present century its wealth was derived entirely from its woods and pastures. But since it has shared the same liberal policy that has been extended to Cuba, and reaped the same advantages from the agitations of the mother country, and the disasters of the sister colonies, it has exhibited the same remarkable picture of prosperity with the larger island. Porto Rico is traversed by a lofty mountain ridge, which in the eastern part rises to the height of about 4,000 feet; on each side of this central ridge lie rich and beautiful valleys, well watered and well wooded, below which stretch the fertile plains that contain the thriving agricultural and commercial towns. In 1778, the population was 70,278, and in 1830, according to the official returns, it was 323,838; of this number only 34,240 were slaves, 127,287 were free coloured persons, and 162,311 whites. The law makes no distinction between the white and the coloured *roturiers*, and the whites are in the habit of intermixing freely with the people of colour. According to Col. Flinter, the produce of the island in 1830, was 46,441,920 lbs. of sugar, 1,507,569 gallons of molasses, 1,216,500 gallons of rum, 28,000,000 lbs. of coffee, 34,640 quintals of cured tobacco, &c. The live stock consisted of 70,130 head of cattle, 52,970 horses, 25,087 swine, &c. The exports are sugar and coffee, with cattle, tobacco, rum, cotton, &c.; the imports are the same as those of Cuba. The annual value of the imports is about 3,000,000 dollars, of exports 4,000,000, two-thirds of which are in American bottoms; of 58,526 tons, the tonnage arrived in 1830, 29,906 was American, and 15,163 Spanish.

The capital, Puerto Rico or San Juan, is a large, neat, and well-built town on the northern coast, with a deep, safe, and capacious harbour. It is very strongly fortified, and contains about 30,000 inhabitants. The other towns are small; Mayaguez and Aguadilla on the west coast, Ponce and Guayama on the southern, and Faxardo, are the principal ports. The little island of Bieque or Crab Island, lying off the eastern coast, is claimed by Great Britain.

Subsect. 3.—*French Islands.*

The possessions of France in the West Indies, previous to the revolutionary war, were more valuable than those of any other nation. The exports from St. Domingo alone amounted to 25,000,000 dollars. That valuable island is now entirely lost to her. During the late war all her islands were captured, and she ceased to exist as a colonial power. At the peace, Martinico and Guadaloupe were restored, and, with Cayenne, form territories of considerable value and capability. Their progress, however, was of course checked during the period when they were under foreign occupation, and it does not appear to have been rapid even since the restoration. The anti-commercial system introduced by Napoleon, and even the preposterous attempt to raise sugar in France out of the beet-root, have not ceased their operations.

Martinico or Martinique, as compared with the other Lesser Antilles, is a large and fine island, about fifty miles in length and sixteen in breadth. The surface is generally broken into hillocks, and in the centre rise three lofty mountains, the streams descending from which copiously water the island. The progress of Martinique took place between 1700 and 1732, during which period the negro population increased from 14,500 to 72,000. The English, when they took it a second time in 1809, found next year a population of 96,413. The census of 1827 gave 101,905, of which 9937 were whites, 10,786 free coloured, and 81,182 slaves. The annual imports from France amount to about 12,000,000 francs; the exports to that country, to 20,000,000. Fort Royal, the capital and the seat of the courts of justice, is a well-built town, with 7000 inhabitants, but the chief trade centres in St. Pierre, the largest place in Martinico and in all French America. Its excellent road has rendered it an entrepôt of the trade of the mother-country with this quarter of the world. It has about 20,000 inhabitants.

Guadaloupe is a larger island, being from fifty to sixty miles long and twenty-five broad. It consists, in fact, of two islands, since a channel, from thirty to eighty yards broad, crosses the narrow isthmus by which its eastern and western portions are united. The western, called Basseterre, notwithstanding the name (which is derived from its position with regard to the trade-wind,) contains a chain of lofty and rugged mountains, one of which displays some volcanic phenomena, emitting volumes of smoke, with occasional sparks of fire. However, its plains are copiously watered and fruitful. The eastern division, called Grande Terre, is more flat, and labours under a deficiency of water. The progress of Guadaloupe was contemporaneous with that of Martinico, though slower. In 1755 it contained 50,800 inhabitants; in 1812 these had increased to 114,000. In 1827 the population was found to be 135,516, of which 17,237 were whites, 16,705 free coloured, 101,564 slaves. Annual value of the exports, 26,650,000 francs; of the imports, 12,000,000. Basseterre, on the part of the island bearing that name, ranks as the capital; but having a bad harbour, is supported merely by the residence of government, and has not more than 9000 inhabitants. Pointe-à-Pitre, on the eastern side, or rather at the junction of the two, carries on almost all the trade, and has a population of about 15,000. The islands of Marie-Galante, the Saintes, and Deseada, are appendages to Guadaloupe, of little importance.

Cayenne, or French Guiana, is an extensive tract belonging to the South American continent, but which, for reasons already stated, we shall here consider in connection with the West Indies. Cayenne Proper consists of an alluvial island about eighteen miles long and ten broad, formed by the branches of the river of that name; but the term is applied generally to a coast about 500 miles in length, having Dutch Guiana on the west, and Portuguese or rather Brazilian Guiana on the east; but the limits of the latter are disputed to the extent of 120 miles, in consequence of the ambiguity occasioned in the treaty of Utrecht by the terms Yapock and Oyapock; and the Brazilians, in spite of every remonstrance, continue to occupy the coast as far as the latter river. Cayenne is an alluvial swampy region, covered with majestic forests. The trees astonish Europeans, not only by their prodigious size, but by their great variety; M. Noyer having counted no less than 259 that were fitted for human use. Fine aromatics, unknown to the other regions of the west, have been cultivated there with success. The Cayenne pepper is the most pungent and delicate kind of that spice; and the clove, long supposed exclusively attached to the Moluccas, has succeeded so well, that a part of the consumption of Europe is supplied from Cayenne. The natural advantages of this colony are very great. The cutting down of these noble woods would afford the material of a valuable timber trade, and the ground thus cleared would be fit for sugar and every kind of West India produce. Yet the tract is cultivated in only a few scattered patches, not exceeding in all 10,000 acres. Serious obstacles are indeed presented by the pestilential vapours exhaled from these dark woods and marshes. In a settlement on a great scale, attempted at Kourou in 1763, no less than 13,000 persons perished, so that the deportation to Cayenne of deputies obnoxious to the ruling party, during the revolution, was inflicted as conveying almost a sentence of death. Yet, if due precautions were used, and the woods cleared, it would probably be as healthy as any other settlement in this quarter. The population of Cayenne in 1830 amounted to 25,250, of whom 19,260 were slaves, and 3786 whites. The annual value of the exports to France is 2,500,000 francs; of imports, 1,800,000. Cayenne is a small town, neatly built of wood, with a spacious and commodious road, and a population of 3000. Kourou, Sinnamaree, La Mana, and Oyapock, are small settlements scattered along the coast.

SUBSECT. 4.—*Dutch, Swedish, and Danish Islands.*

The possessions of the Dutch in the West Indies, when compared with their eastern colonial empire, appear exceedingly limited. Their only islands are St. Eustatia, Saba, and Curacoa. The first two are small isles lying immediately north of St. Christopher's: St. Eustatia consists almost entirely of the sloping sides of one high conical hill, terminating in a rocky summit. It is, however, cultivated with great care, and abounds particularly with tobacco; also in cattle and poultry, of which it affords a surplus to the neighbouring islands. The capital is well fortified, and forms a species of entrepôt both of regular and contraband trade. The population of the island is estimated at 20,000; that of the town at 6000. Saba, only twelve miles in circuit, and destitute of a harbour, is a pleasant island, but of no commercial value. The Dutch participate with France the small island of St. Martin, valuable almost solely for its salt-works. Curacoa is a larger island, far to the west of the others, and only about seventy miles distant from the Spanish main. It is about thirty miles long, and ten broad; but the greater part of its surface is arid and unfertile, and its importance was chiefly derived from the contraband trade which its situation enabled it to carry on, while the continent was exclusively possessed by Spain, and studiously shut against the vessels of other countries. Since Colombia became independent, and threw open her ports to all nations, Curacoa has sunk into a secondary station. Williamstadt, its capital, however, with a fine harbour, has still a considerable trade, and a population of 8000.

Surinam, on the coast of Guiana, constitutes the most important part of the Dutch western possessions. Dutch Guiana formerly included Demerara, Berbice, and Essequibo; but Britain having in the last war captured these three districts, her capital was employed with such advantage in improving them, that she determined, at the peace, on retaining them, and left to Holland only the larger but less valuable territory of Surinam Proper. This coast, like that of the rest of Guiana, is flat and alluvial, and is traversed by several broad rivers, coming from a considerable distance in the interior. That of Surinam has a channel about four miles wide, but shallow and rocky, navigable only for boats. The Dutch, since they regained possession of it, have made very considerable efforts for its improvement, and it is decidedly rising in importance. Paramaribo, at the mouth of the river, where it affords excellent anchorage for vessels, is a considerable town, well built of wood, and arranged in regular streets, adorned with fine trees. Its commerce, though now surpassed by that carried on in English Guiana, is considerable, and supports a population of 18,000 or 20,000 persons.

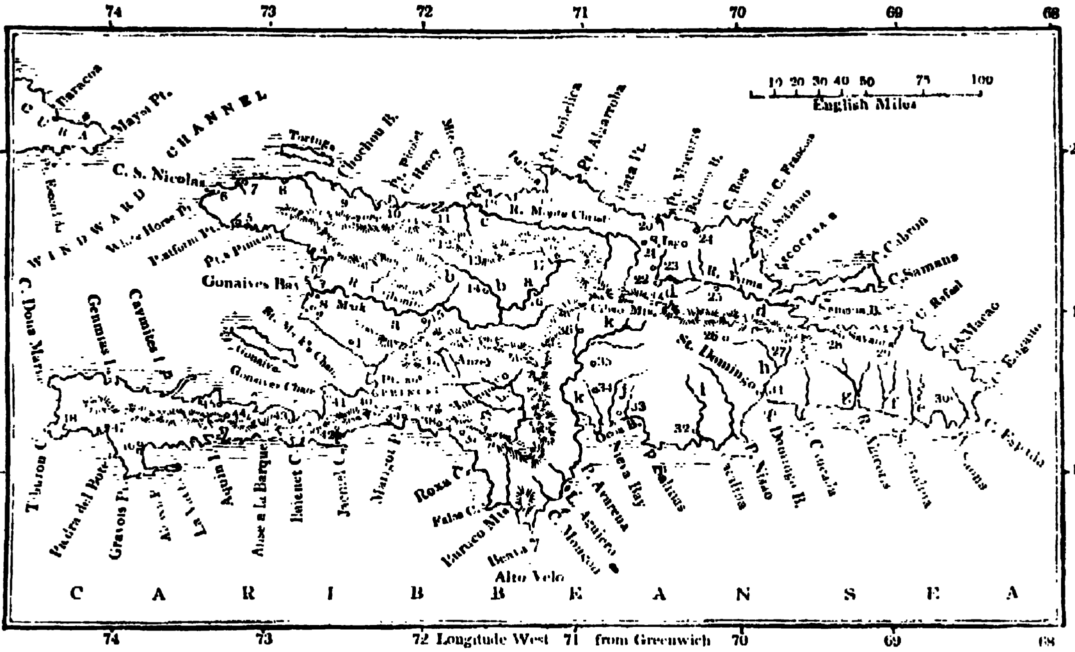
The Danes have three small islands in the West Indies. St. Croix, or Santa Cruz, the principal one, lies to the south of the Virgin Islands: it has a surface of eighty-one square miles, and a population of about 34,000, all slaves, except 2500 whites and 1200 free coloured. It is productive, in proportion to its extent, in the usual West Indian articles. Christiansted, the capital, has 5000 inhabitants. St. Thomas, one of the Virgin Islands, is of little importance, unless as a favourable station for introducing into the other islands those goods which the great states have declared contraband. St. Thomas, the capital, with an active trade and 3000 inhabitants, contains about half of the population of the island. St. John's, another of the same group, is very small, and only noted for its excellent harbour.

The Swedes have only one small island, St. Bartholomew, situated about fifty miles north of St. Christopher's. It is not quite twenty-five square miles in extent, and is generally described as fertile and well cultivated, though an eye-witness assures us that neither of these characters can apply to it. Gustavia, the capital, acquired considerable wealth during the war, when it continued long to be almost the only neutral port in these seas.

Subsect. 5.—*Hayti.*

Hayti, now an independent negro republic, forms one of the most peculiar and interesting portions of the New World. It is a very fine island, situated between Jamaica and Porto Rico, about 450 miles in length, and 110 in breadth, and having an area of 28,000 square miles. In the centre rises the lofty range of the mountains of Cibao, of which the peak of La Serrania rises to the height of 9000, and that of La Sella to 7000 feet. These mountains are covered nearly to the summit with vegetation and noble woods, and from them descend numerous streams, which, uniting in four large rivers, bestow extreme fertility on the plains beneath. The principal productions of the island are, in the west and south, coffee, the sugar-cane (which is chiefly employed in the making of taffia, the ordinary rum of the country), and cotton; in the north, coffee, the splendid sugar estates about the Cape having been mostly abandoned or converted to other uses; in the east, cattle with some tobacco. Mahogany and Campeachy wood, Guiac or Lignumvitæ, Braziletto, honey, wax, and fruits are also important articles of production. This was the first large island discovered by Columbus, who landed there on the 5th of December, 1492, and made it, under the name of Hispaniola, the seat of his first colony. That great man, however, soon lost all control over the Spanish adventurers, who gave full scope to their cruelty and rapacity. The gold, which was then found in considerable abundance, formed the chief object of their avidity; and the unhappy natives, forced to labour in the mines, and otherwise inhumanly treated, were in the end completely exterminated. The gold being in some degree exhausted, and its amount completely eclipsed by that of Mexico and Peru, Hispaniola, called now St. Domingo, was in a great degree neglected. About the middle of the seventeenth century, a daring band of French buccaneers established themselves in the western

MAP OF HAYTI. Fig. 1025.



References to the Map of the Island of Hayti.

1. Arcahir
2. St. Mark
3. Artibonite
4. Gonaive
5. Platform
6. St. Nicolas
7. Jean Rabel
8. Port Paix
9. Port Margot
10. Cape Henry
11. Port Dauphin
12. Dondon
13. St. Miguel
14. Hincha
15. Mirebalais
16. Banica
17. St. Thome
18. Monte Christi
19. Isabella
20. Santiago
21. St. Jago
22. Concepcion de la Vega
23. Santa Sarra
24. S. Juan
25. Angelina
26. Cotuy
27. Polgasin
28. Savanna la Mar
29. Sebyo
30. Higuey
31. St. Domingo
32. Bani
33. Azua
34. Baitos
35. Viajamo
36. S. Juan
37. Pedarneles
38. Sale Trou
39. Caves
40. Port au Prince
41. Leogane
42. Jacmel
43. Pesqueno Goavo
44. St. Louis
45. Miraguana
46. Les Cayes
47. Tres Rios
48. Tiburon.

Rivers.

a Artibonite
b Guayaia
c Monte Christi, or Yaguo
d Yuna
e Romana
f Souca
g Mucoria
h Ozama
i Bani
j Tavera
k Nieva.

districts. They were owned and supported by the French government, which ultimately became possessed of this part of the island. Its progress was at first checked by the injudicious restraints of an exclusive company; but a more liberal policy being adopted in 1722, it rapidly advanced to a degree of prosperity altogether unprecedented. Though forming little more than a third of the island, it far surpassed in opulence not only the Spanish part, but the whole Spanish West Indies.

The French revolution caused an extraordinary change in the state of Hayti. In 1791 the Assembly caused to be proclaimed throughout the island their favourite doctrine, that all men were free and equal. This proclamation gave rise, in the first instance, to a contest between the white and the free coloured population. But while these parties were contending for the application of the principle, the slaves felt that it applied also to them. They rose in a body, massacred or drove out the other two classes, and became entire masters of French St. Domingo. This revolution, with the excesses which accompanied it, soon ended, like other revolutions, in a military despotism, which was established in 1806 by Dessalines, who assumed the title of James I. He was succeeded by Christophe, his second in command, who named himself Henry I., hereditary king of Hayti. Meantime, however, the republic of Hayti was established in another part of the island, under the presidency, first of Pétion, and then of Boyer. Henry, harassed by attacks from this and other quarters, ended his life by suicide in 1820. Boyer then, by a series of vigorous operations, not only extended his sway over all the French part of the island, but annexed to it also that belonging to Spain (1822); so that the whole is now comprehended in the republic of Hayti. France in 1803 made strong efforts to regain this valuable island, but without success. At length, on the 17th of April, 1825, a treaty was concluded, by which she acknowledged the independence of Hayti, on condition of receiving the large sum of 150,000,000 francs, to be paid in five annual instalments.

An independent negro state was thus established in Hayti; but the people have not derived all the benefits which they sanguinely expected. Released from their former compulsory toil, they have not yet learned to subject themselves to the restraints of regular industry. The first absolute rulers made the most extraordinary efforts to overcome the indolence which soon began to display itself. The *Code Rural* directed that the labourer should fix himself on a certain estate, which he was never afterwards to quit without a passport from the government. His hours of labour and rest were fixed by statute. The whip, at first permitted, was ultimately prohibited; but as every military officer was allowed to chastise with a thick cane, and almost every proprietor held a commission, the labourer was not much relieved. By these means Mr. Mackenzie supposes that the produce of 1806 was raised to about a third of that of 1789. But such violent regulations could not continue to be enforced amid the succeeding agitations, and under a republican *régime*. Almost all traces of laborious culture were soon obliterated: large tracts, which had been one entire sugar-garden, presented now only a few scattered plantations. The export of sugar, which in 1806 had been 47,516,531 lbs., amounted in 1825 to 2020 lbs. Coffee, which continued to be a staple production, was also much diminished. The only indemnification which the people sought was in the easy task of cutting down the forests of mahogany and campeachy wood, which were found of greater value than had been supposed. Mr. Mackenzie, in viewing the extreme fertility of the soil and climate, and the contented indolence of the inhabitants, was struck with extreme despondence as to their ever making any improvement. The slightest labour is sufficient to secure subsistence; the adults wear merely such portions of dress as decency most absolutely requires, while the children of both sexes have no covering whatever. It would appear, however, that Hayti had reached its utmost point of depression, and was beginning, after the example of its industrious neighbours, to avail itself of its great natural advantages. Within the last few years, a considerable increase has taken place in the exports of coffee, cotton, mahogany, tobacco, and other articles. It is difficult to give any thing precise in regard to the population of Hayti. It is stated to have been about 600,000 before the commencement of the difficulties of 1791; the long and bloody struggle which followed, accompanied by extensive emigrations, and the subsequent wars between the different powers that established themselves in different parts of the island, must have very considerably diminished this number; yet Humboldt estimates the population, in 1823, at 800,000; but there seems to be more probability in the statement of Mollien, who rates it at less than 600,000. The value of the exports, in 1832, was $3,800,000; of imports, $4,160,000; entered, 350 ships of 48,398 tons; left, 336 ships of 46,146 tons; the number of American vessels much exceeding those trading under any other flag. The great article of export was coffee to the amount of 42,476,800 lbs., and the value of $3,326,000; other articles were mahogany and campeachy wood of the value of $400,000; cotton, $124,000; tobacco, $65,000, &c. The imports are flour, salt provisions, lumber, &c., from the United States; cotton goods and other manufactured articles, from Great Britain, the United States, France, and Germany; wines, jewellery, &c., from France.

The government of Hayti is professedly republican, but it has been well described as practically a military democracy. The chief executive officer is the President, who holds the place for life. There is a Senate, consisting of 24 members, named for life by the House of Representatives from a list of candidates presented by the President. The Representatives are chosen for the term of six years by the parishes, but the body of the people takes but little interest in the elections. The President proposes the laws and financial arrangements, which are acceded to with little discussion. The revenue of the state is about $1,500,000; the expenditure is considerably more. The army amounts to 45,000 men. The religion of the Haytians is Roman Catholic, but there is little attention paid to the subject, and the state of morals is described as exceedingly bad; other religions are tolerated. Whites are not allowed to hold landed property, or to carry arms.

Hayti has been divided into six departments, named, chiefly after their positions, West, South, Artibonite, North, North-east, South-east. The last two comprehend the part lately possessed by the Spaniards. Port au Prince, in the department of the West, is the capital, and the chief seat of trade. It has a secure and excellent roadstead, but the country around is marshy, and, during the summer, very unhealthy. The city is built mostly of wood, its streets unpaved, and containing no remarkable edifices. The population may be from 12,000 to 15,000. Petit Goave or Pesqueno Goave, and Jacmel, are small towns in the same department, with good harbours and some trade. Cape Haytien, formerly Cape Français or Cape Henry, in the department of the North, the seat of the kingdom established by Christophe, is better built, with well-paved streets, and some handsome squares, and has a population of about 10,000. Near it is the citadel, constructed at vast expense on the top of a mountain, as a place of security for himself and his treasures.

Les Cayes, in the department of the South, the seat of an ephemeral government, which sprung up during the disturbances, is a neat town, with a flourishing trade; but it was almost destroyed by a hurricane in August, 1831. Jeremie, in this department, is a place of considerable trade. In the department of Artibonite is Gonaives, a small town with a good harbour. St. Domingo, the capital of the Spanish part of the island, presents the remains of a very handsome city; a solid and spacious cathedral, a large arsenal, houses in general commodious and well built; but it has been long in a state of decay, and is not supposed to contain now above 10,000 inhabitants. Higuey, in the eastern part of the island, is a celebrated place of pilgrimage. In the department of the North-east is Santiago, which was nearly ruined by the devastations of the servile war.

CHAPTER VIII.

GUATEMALA, OR UNITED STATES OF CENTRAL AMERICA.

The republic of Guatemala, or Guatimala, occupying the narrow tract between the two great masses of the continent, has, in virtue of its position, assumed the title of *the United States of Central America.*

Sect. I.—*General Outline and Aspect.*

Guatemala is bounded on the south-east by the province of Veragua, belonging to the republic of New Grenada; on the north and north-east by the Mexican States of Chiapa, Yucatan, and the Atlantic, or the Sea of the Antilles; and on the south and south-west by the Pacific Ocean. It forms a sort of extended isthmus, reaching from north-west to south-east, between 8° and 17° N. lat., and 82° and 96° W. long. Measured by an oblique line from one extremity to the other, it may be 1050 miles in length; but the breadth, from sea to sea, nowhere exceeds 500, and in some places is only 100 miles. The surface has been estimated at 200,000 square miles, which, though it appears small when compared with the other American states, is nearly double the whole extent of the British Islands.

The surface of Guatemala does not display that lofty and rugged character which generally marks the neighbouring portions of the American continent. The chain of the Andes, which raises such a tremendous snowy barrier through the greater part of the continent, sinks in the isthmus of Panama into a mere rocky dike, connecting North and South America. Near Nicaragua, it seems to become little more than an insensible ridge, sloping down to the shores of the opposite oceans. Proceeding north-west, it soon rises and presents to the Pacific a lofty range, in which Humboldt and Arago have counted twenty-one volcanoes, partly burning and partly extinct. The loftiest, called the volcano of Guatemala, being covered with snow for several months in the year, cannot be much less than 10,000 feet high. Hence Guatemala, though it does not present a continuous table-land, like Mexico, has high mountain valleys, enjoying a cool and agreeable air, and producing the grain and the fruits of the temperate zone. The eastern part, swelling somewhat into the form of a peninsula, and known by the name of Poyais, and the Mosquito shore, consists of a vast and savage forest, beat by the burning rays of the sun, and occupied by rude and unsubdued Indians.

The waters which descend from the Andes of Guatemala fall into one or other of the opposite oceans, and do not swell into rivers of any importance; but there is one grand aqueous feature, the Lake of Nicaragua, 150 miles in length, and 60 in breadth, and having almost throughout a depth of ten fathoms. Numerous streams, flowing from different quarters, form this great body of water, which has only one outlet in the river San Juan, which flows from it into the Atlantic. The surface of the lake is diversified and adorned with small islands, in one of which is a volcanic mountain. It communicates by a navigable channel of 26 miles, with a smaller lake, called the Lake of Leon, which may almost be considered as a branch of it, and is 50 miles long, by 30 broad.

Sect. II.—*Natural Geography.*

There is nothing known, under this head, by which Guatemala can be distinguished from the bordering countries of Mexico and Colombia.

Sect. III.—*Historical and Political Geography.*

The history of Guatemala, and the country itself, were less known than any other part of America, till recent events brought them into notice. Yet its records appear, in many respects, worthy of enquiry. The ancient Guatemalans evidently possessed a civilisation derived from and rivalling that of Mexico. The palace of Quiche is said to be comparable in magnificence to that of Mitla. In the depth of forests have been found ancient cities, containing monuments similar in grandeur and ornament to the *teocallis* of Mexico, and on whose walls are found figures and other representations well executed in bas-relief. The Toltecs, who preceded the Aztecs, as rulers that civilised Mexico, appear to have been driven southwards, and to have settled in Guatemala. The resistance to Alvarado, sent in 1523 by Cortez to conquer this country, was vigorous, and even such as to render the issue somewhat doubtful. After the conquest, Guatemala was erected into an audiencia, with only a slight dependence on the viceroy of Mexico; but as it did not, permanently at least, yield gold and silver, and its produce was chiefly sent by the way of Vera Cruz, it was very little heard of in Europe, till the general crash of the Spanish power. Guatemala then suddenly erected herself into an independent state; and Mexico, which at first made great efforts to retain her as a province, finding her determination immutable, very wisely, and with a tolerably good grace, yielded the point.

Sect. IV.—*Productive Industry.*

The productive qualities of Guatemala are, if possible, superior even to those of other countries in the fruitful climates of America. Like Mexico, it yields in different regions, and at small distances from each other, all the varieties of fruit and grain peculiar to the tropical and temperate zones. Of fruits, several of the most valuable are produced in the highest perfection. The indigo, which forms so large a part of the commerce of Mexico, is almost entirely Guatemalan. The cacao of Soconusco is said to be the very finest in the world, though it is cultivated on too small a scale to enter much into the market of Europe. Vanilla, however, the other ingredient of chocolate, is procured to a great extent from this quarter. Sugar, cotton, cochineal, mahogany, and dye-woods, are also exported. There are manufactures of cotton and porcelain, some of them fine, but only for internal consumption; and the fabrics in wrought gold and silver are said to possess great merit. As to commerce, Guatemala labours under the disadvantage of not having on either ocean a port capable of receiving large ships; and its commodities have to bear a heavy land-carriage, and a coasting voyage, before they arrive at Vera Cruz.

Guatemala abounds in mines, particularly of silver; some of which have been undertaken by an English company, in the expectation of their proving productive; but the result is yet uncertain. In Quesaltenango is found very fine sulphur, of which the Spaniards availed themselves to renew their supplies of gunpowder at the time of the conquest.

Canals are naturally an undertaking beyond the infant resources of Guatemala; but one is in contemplation, which, if executed, will be the greatest and most important work of this kind on the globe. This is a canal to connect the Atlantic and Pacific, so as to enable European vessels to reach China and parts of India by an easier and more direct course. The isthmuses of Panamá and Darien, from their very small breadth, naturally claim the first attention; but as a considerable ridge traverses them, and the supply of water is doubtful, a rail-road seems to be more suited to the face of things there. The isthmus of Tehuantepec, and the interval between the rivers Atrato and San Juan, in Chocó, appear to be level; but the distance is too great to admit of more than a canal of small navigation, which would, doubtless, have its use. But the grand oceanic canal, which would cause a revolution in the commercial world, will, probably, be undertaken from the Lake of Nicaragua, navigable for the largest vessels, which communicates with the Atlantic by the broad channel of the San Juan, and is separated from the Pacific by an interval of from sixteen to twenty miles in breadth, through which it seems certain that a good level could be found. To execute, therefore, a canal of the dimensions of the Caledonian, is, even at present, completely within the reach of human skill and resources. It is an undertaking, indeed, which does not belong to the government within whose limits it is placed; and, though the capitalists of North America or Europe would find no difficulty in providing the funds, the political atmosphere of Central America is scarcely yet so settled, that they might look forward with full confidence to compensation for the large advances which would be necessary.

Sect. V.—*Civil and Social State.*

The population cannot be considered as well ascertained. An official census, in 1778, gave 797,000; but this has been shown by Juarros to have been very incomplete. Humboldt, during his stay in Mexico, saw official documents which carried it to 1,200,000; and Torrente and other writers well acquainted with the country are of opinion that it does not fall short of 2,000,000. About one-half of the whole number are Indians, one-fifth whites, and three-tenths mixed races. There are no negroes in the country.

The character of the Guatemalans does not probably differ materially from that of the other Spanish Americans, though it is praised by Juarros as presenting a favourable specimen; and, perhaps, their obscurity may have shielded them from much of the degrading oppression felt in other quarters. He represents them as docile, humane, courteous, liberal, affable to strangers, and only liable to the charges of pusillanimity and indolence. A considerable patriotic spirit was shown by the institution, in 1795, of a society of Friends of the Kingdom, with the view of promoting agriculture and the arts; but, after having carried on operations with great spirit for five years, they were suppressed in 1800 by an arbitrary mandate of the government. An university was established in 1788, whose pretensions were at first confined to scholastic learning; but mathematics and experimental philosophy have since been introduced. Sculpture is said to be carried to greater excellence in Guatemala than in any other part of the New World.

The government is federal republican in its form, being modelled on that of the United States. A federal congress, composed of a senate and house of representatives, chosen the latter by the people, the former by the states, and a president, also chosen by the popular vote, manage the general concerns of the confederacy. Each state has its respective legislature and executive chief for the administration of its domestic affairs.

SECT. VI.—*Local Geography.*

The territory of the republic, together with the present Mexican state Chiapas, formed the Spanish captaincy-general of Guatemala until 1821, when it was incorporated with Mexico. On the fall of Iturbide, in 1824, it separated itself from the latter, and constituted itself an independent republic, under the title of the Federal Republic of Central America. The confederacy consists of five states, and a federal district, as follows.

States.	Population.	Capitals.
Guatemala	800,000	Old Guatemala
San Salvador	350,000	San Salvador
Honduras	250,000	Comayagua
Costa Rica	150,000	San Juan
Nicaragua	250,000	Leon

Federal District, New Guatemala.

Guatemala Proper is the central province, comprising the great chain of volcanic mountains, and the slope downwards from them to the sea. It is here that the great variety of climate and productions appears, and that the latter are in the highest perfection. What is strictly called the valley of Guatemala consists properly of nine valleys, of varying elevation, enclosed within the great circuit of volcanic mountains. In the centre of this range of valleys, at an elevation not precisely known, stands the old city of Santiago de Guatemala. It was erected first in 1527, at the foot of an enormous mountain, called the Volcano of Water (de Agua), and which too soon justified that title; for, a few years afterwards, an aqueous eruption burst forth, of the most formidable character, which overwhelmed the whole city, and buried in its ruins a great part of the inhabitants. Appalled by this disaster, the Spaniards removed the city to another situation in a beautiful and finely watered valley, which yielded in profusion all the necessaries and luxuries of life. A very magnificent city, also called Santiago de Guatemala, was here erected, with 38 ecclesiastical structures, of which the cathedral was a sumptuous edifice, richly decorated, and more than 300 feet long. Of the nunneries, that of La Concepcion is said to have been inhabited by 1000 persons. But the site, with all its felicities, had terrible defects. It was liable to dreadful shocks of earthquake and volcanic eruptions, which rendered the existence of its inhabitants constantly insecure, and their fate often tragical. Juarros has devoted a portion of his work expressly to a record of the miseries of old Guatemala. In the above succession of calamities, severe attacks of pestilence were interspersed. At length, in 1775, the series was consummated by a truly appalling earthquake, the shocks of which, continuing at intervals from June to December, reduced the city nearly to a heap of ruins. The Spanish government, on being advertised of this disaster, sent out instructions to remove to another site; but this, perhaps well-meant, order, being executed in an abrupt and despotic manner, only aggravated at first the miseries of the unfortunate city. New Guatemala was built in the valley of Mixco, in a situation not so fertile and beautiful, but extremely healthy, and exempt from the dreadful calamities of which the old city had been a victim. It was reared in the usual regular manner and with numerous squares; the houses are neat, though low, to mitigate the danger of earthquake; the churches and other public edifices on a smaller scale, but of very elegant design. The citizens, supposed to amount to 35,000, ply, with very considerable diligence, the trades of weaving, pottery, working in silver, and embroidery: its chief articles of trade are indigo and cacoa. Old Guatemala likewise has risen from its ashes, and a great proportion of its exiles have gradually found their way back to their former abode. Having attained a population of 18,000, it has been reinvested, not with the privileges of a city, but those of a town.

Other fine tracts and important cities are also found in the valleys of Guatemala. Santa Cruz del Quiche represents the once great Utatlan, capital of the Indian kingdom subverted by Alvarado. Its palace, in magnitude and splendour, appears to have been little inferior to those of Cuzco and Mexico. It contained accommodation not only for the king himself, but for all the princes of the blood-royal and a numerous body-guard. As it appears to be in better preservation than any other of the imperial seats of native America, a diligent examination would probably lead to important discoveries. San Salvador, to the south, is the capital of the state of the same name, which contains above 300,000 people, and forms a very rich tract, yielding most of the indigo which is the staple of the kingdom. The capital, in a fine valley, contained, in 1778, a population of 12,000, chiefly employed in the indigo trade. A variety of volcanic movements desolate this province, while they present curious phenomena to the view of the observer. Farther to the south, and still in this central region, are other fertile districts, provided the reader can pronounce their names: Quesaltenango, Totonicapan, and Gueguetenango. These districts are chiefly inhabited by Indians, who are civilised, and carry on several curious and ingenious manufactures.

The state of Nicaragua lies to the south of the preceding. The mighty range of volcanic Andes, which have given so decided a character to central Guatemala, here terminates, and the whole chain is in a manner suspended. The territory is low and moist, rich in all the tropical fruits, but in none which belong to the temperate climes. It has, however, vast savannahs covered with numerous herds of cattle, which are sent even to the market of the capital. But the most prominent object in this province is the lake, and the chief interest excited by it is the projected oceanic canal; both of which have been already mentioned. San Leon de Nicaragua is a place of about 20,000 inhabitants, of whom about 1000 are Spaniards, with a college, which in 1812 was allowed by the Cortes to be converted into an university. It occupies an advantageous position on the northwestern shore of the lake of the same name, which communicates by its outlet with Lake Nicaragua. Fourteen leagues distant is the fine harbour of Realejo in the Pacific, separated only by a level country over which there is a good road. Nicaragua, on the lake of the same name, is a town of about 8000 inhabitants. Its port is San Juan del Sul, at the mouth of the navigable outlet of the lake. Mazaya, a village of 6000 inhabitants, almost entirely Indian, is said to be the most trading place in the province, though inconveniently situated at the bottom of a deep rocky dell, almost destitute of water.

Costa Rica, to the south of Nicaragua, seems named ironically, being in a state of extreme and deplorable poverty. It has, however, mines of gold and silver, which Alçedo pretends to have been once as productive as those of Potosi; but such a state of things, which seems at any time fabulous, has now, at all events, wholly ceased. Yet the "rich coast" is very capable of yielding the common tropical products; but the inroads of the Buccaneers caused a desertion, from which it has never recovered. Cartago, however, in the heart of the province, has a population of 20,000 persons, of whom 600 are, or were, Spaniards; while San José, at a little distance, has a number nearly equal, with a greater proportion of Spaniards.

The eastern part of the republic consists of the state of Honduras, so named from the peninsula which separates it from Yucatan. The whole coast is flat, marshy, hot, and extremely unhealthy, though some parts of the interior rise into hilly and temperate tracts. This region is covered with thick forests containing the valuable trees of mahogany and logwood. The mahogany trees are very thinly scattered, and are cut down by gangs of negroes. preceded by what is called the finder, who mounts the tops of the highest trees, and spies out where a mahogany tree is to be found. The chief expense is in the conveyance to the coast. Turtle is found in abundance along this shore. Gold and silver mines are said to exist here, but none have ever been worked, or even found. The coast of Poyais, into which a body of English colonists were so fatally seduced, partakes of the general character, but seems still more dreary and uninviting. Comayagua, called also Valladolid, is agreeably situated in the interior; but, though the nominal capital, it has never attained any great importance. Truxillo, and Cape Gracias, are more conspicuous places, but now also much decayed. Omoa, with a good harbour, has some trade. The cultivation of tobacco and the rearing of cattle form the principal occupations of the inhabitants of Honduras.

CHAPTER IX.

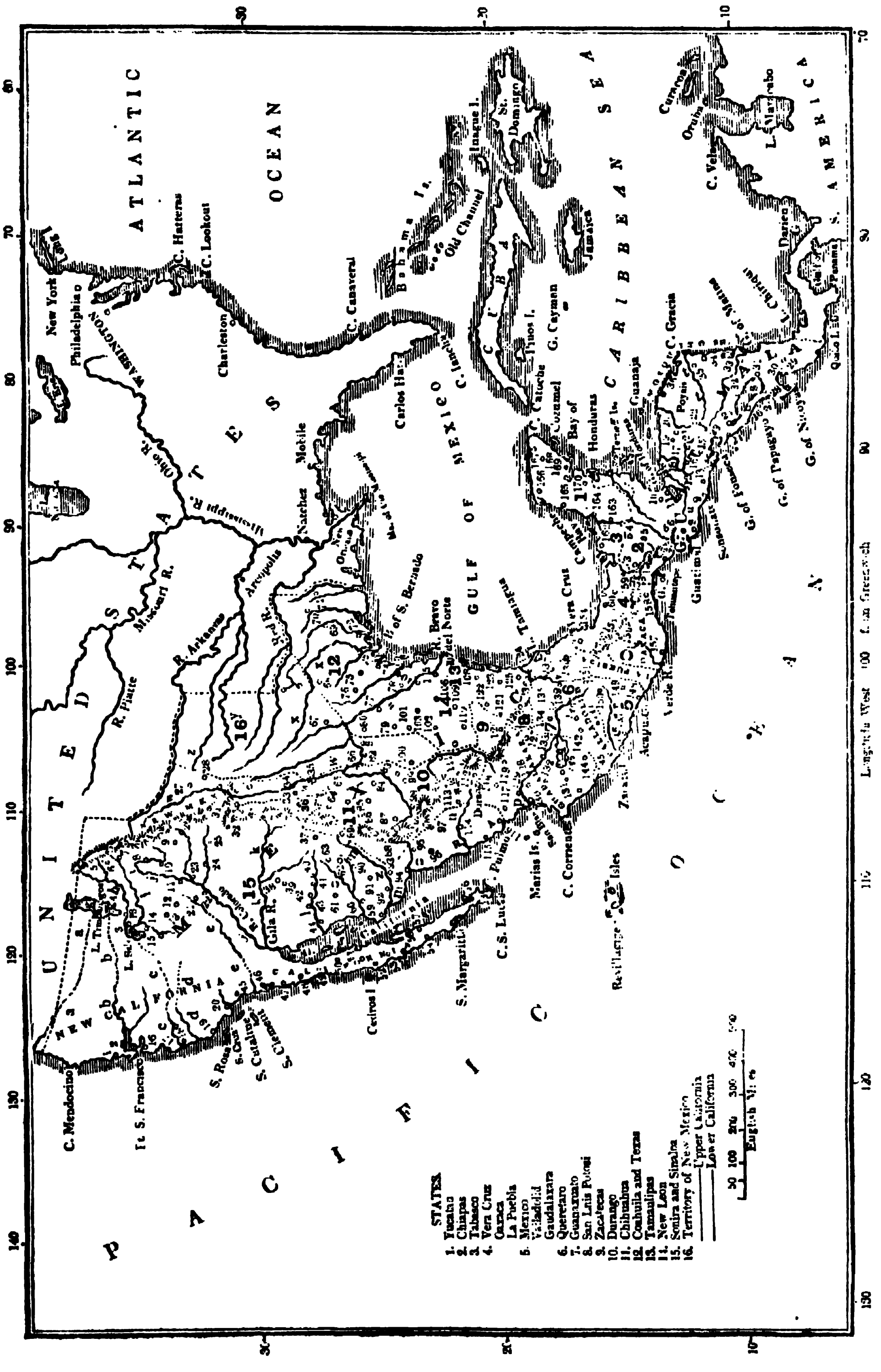
MEXICO.

Mexico is an extensive and noble territory, forming the greater part of that vast tract of land which connects together Northern and Southern America. Originally a native empire, afterwards the principal of the Spanish viceroyalties, it is now a great independent republic. It has sometimes been considered as extending to the Isthmus of Panama, which was, in some degree, under the jurisdiction of the viceroy of Mexico; but as Guatemala, to the southward of Mexico Proper, was always a separate intendency, and has now erected itself into an independent republic, it has received a separate notice.

Sect. I.—*General Outline and Aspect.*

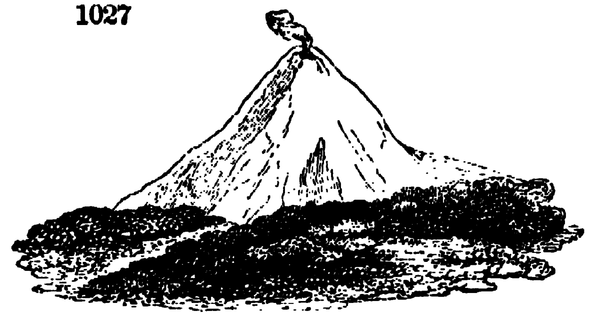
The outline of Mexico is so vague and irregular that its general dimensions of length and breadth are not easily determined. The southern extremity of Chiapas is in 15° N. lat. From the head of the bay of Tehuantepec, the western coast continues in a long oblique line from south-east to north-west, to the lat. of 42° N., Cape Mendocino, the extreme western point, reaching to 125° W. long. At the head of the Gulf of Tehuantepec, the eastern and western coasts approximate to within about 125 miles, but they immediately diverge, and form the large peninsula of Yucatan, which terminates in about 86° W. long., the easternmost point of the territory. The extreme length may be stated at about 2500 miles; the breadth varies from 125 miles in the isthmus of Tehuantepec, and nearly 300 at the main centre of the republic, between Acapulco and Vera Cruz, to about 1400 between the Sabine and the Pacific, and nearly 850 between the Rocky Mountains and the ocean in the extreme north. The whole surface may be, therefore, described as lying between 86° and 125° W. long., and 15° and 42° N. lat., with an area of 1,650,000 square miles.

The surface of Mexico is elevated, composing part of that vast ridge which runs along the whole continent of America parallel to the Pacific, and which in the south is called the


STATES
1. Yucatan
2. Chiapas
3. Tabasco
4. Vera Cruz
Oaxaca
La Puebla
5. Mexico
Valladolid
Gaudalaxara
6. Queretaro
7. Guanaxuato
8. San Luis Potosi
9. Zacatecas
10. Durango
11. Chihuahua
12. Coahuila and Texas
13. Tamaulipas
14. New Leon
15. Sonora and Sinaloa
16. Territory of New Mexico
Upper California
Lower California
50 100 200 300 400 500
English Miles
UNITED STATES
ATLANTIC OCEAN
PACIFIC OCEAN
GULF OF MEXICO
CARIBBEAN SEA
S. AMERICA
New York
Philadelphia
WASHINGTON
C. Hatteras
C. Lookout
Charleston
C. Canaveral
Bahama Is.
Old Channel
Inague I.
St. Domingo
CUBA
Jamaica
Pinos I.
G. Cayman
C. Catoche
Cozumel
Bay of Honduras
C. Gracia
Poyais
Guanaja
C. Vela
Oruba
Curacoa
L. Maracaybo
Darien
Panama
G. of Nicoya
G. of Papagayo
G. of Fonseca
Guatimala
Tehuantepec
Acapulco
Verde R.
Vera Cruz
Campeachy
Tampico
R. Bravo del Norte
B. of S. Bernardo
Carlos Har.
C. Sable
Mobile
Natchez
N. Orleans
Mississippi R.
Ohio R.
Missouri R.
R. Arkansas
Red R.
R. Platte
Arcopolis
Gila R.
Colorado
C. S. Lucas
Pulmo
S. Margarita
Cerros I.
Marias Is.
C. Corrientes
Revillagigedo Isles
Zacatula
S. Rosa
S. Cruz
S. Catalina
S. Clemente
Pt. S. Francisco
C. Mendocino
L. Timpanogos
NEW MEXICO
CALIFORNIA
Longitude West 100 from Greenwich
10
20
30
40
50
60
70
80
90
100
110
120
130
140

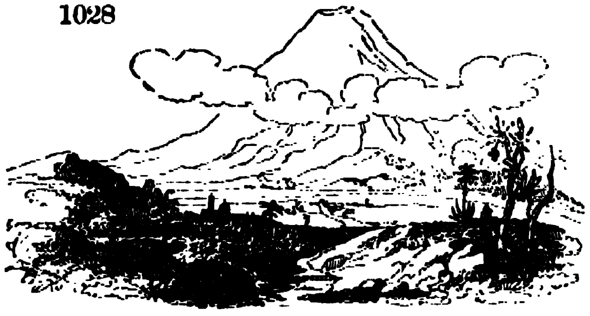
Andes or Corderillas, and in the north the Rocky Mountains. In the middle part the chain presents a broad table-land, from 6000 to 8000 feet in height, thus equalling Mont St. Bernard, and others of the most remarkable summits of the old continent. This table-land is not, as in Quito and other parts of South America, an interval between opposite ridges, but is the very highest part of the ridge itself. In the course of it, indeed, detached mountains occur, of which the summits rise into the regions of perpetual snow, on a level almost with the mightiest of the Andes. Such are the volcanic peak of Orizava (*fig.* 1027.), Popocatepetl, (*fig.* 1028.), and Toluca. But these are merely insulated heights or chains, running in a different direction from the general ridge, and presenting few interruptions to that continuous level, as smooth almost as the ocean, which extends, for upwards of 1500 miles, from one extremity of Mexico to the other. Hence while the communication between Mexico and the eastern and western sea-coasts is extremely difficult, and, with slight exceptions, can be carried on only by mules, there is nothing to prevent wheel-carriages from running from the capital to Santa Fé in New Mexico, and thence to St. Louis on the Mississippi.

1027



Orizava.

1028



Popocatepetl.

The fertility of this vast table-plain varies with its elevation. The summit is absolutely devoid of vegetation, not from the severity of the climate, which belongs only to the temperate zone, but from the absence of moisture, occasioned, as Humboldt conceives, by the force with which the rays of the sun strike on this open plain, the absence of trees, and the porous nature of the rocks, which causes the water to filtrate down to the lower regions. On this high arid plain, muriate of soda and other saline substances exist in extraordinary abundance, and give to it a resemblance to Thibet and the saline steppes of central Asia. Yet a great part of New Spain must rank with the most fertile regions of the earth.

References to the Map of Mexico and Guatemala.

MEXICO.
1. Ruins of Kodiak
2. S. Rafael
3. Val Salado
4. S. Andres
5. S. Cruz
6. Baranco
7. S. Serafina
8. S. Luis
9. S. Cayetano
10. Asuncion
11. S. Fernando
12. Peban
13. S. Rustico
14. Arroyo Tesedon
15. Brigida
16. S. Francisco
17. Monterey
18. La Soledad
19. S. Barbara
20. S. Gabriel
21. Ogolino
22. Puerto Bucarolli
23. Restrilla
24. Taquestrelo
25. Osoli
26. Nieves
27. Taos
28. Santa Fe
29. Albuquerque
30. Coquinas
31. Zunni
32. Casita
33. Jacome
34. Paso del Norte
35. Al Ojito
36. Caropolada
37. S. Bernardino
38. Pres de Tubao
39. S. Xavier del Bac
40. S. Ignatio
41. Imuris
42. Tubutamo
43. Oquitoa
44. Bisaniz
45. S. J. de Compistuno
46. S. Diego
47. S. Miguel
48. S. Thomas
49. Rosario
50. S. Francisco Borja
51. Gertrudis
52. S. Ignacio
53. S. Maria
54. S. Jose de Comodu
55. Santiago
56. La Paz
57. Loretto
58. S. Rosalia
59. Guaymas
60. Higan
61. Crisanco
62. Sonora
63. Arispe
64. Volardo
65. Los Boquillas
66. Alamo
67. Fort del Altar
68. S. Saba
69. Guardia Barca
70. La Trinita
71. Nacogdoches
72. Galveston
73. Matagorda
74. Rosario
75. S. Antonio de Bexar
76. Espada
77. S. J. Baptista
78. Loredo
79. Madadores
80. Cruses
81. Tabal
82. Pt. de Consolacion
83. Huaxequilla
84. Chihuahua
85. S. Rosa le Cosig
86. Bachiniba
87. S. Pedro de Batopilas
88. Uruachi
89. Nacatubori
90. Concepcion
91. S. Francisco
92. Buenavista
93. Onabas
94. Los Alamos
95. V. del Fuerte
96. Sinaloa
97. Narotal
98. Narogame
99. S. Jose del Parral
100. Canva
101. Monclova
102. Castanuela
103. S. Car. de Yallecilla
104. Revilla
105. Camargo
106. Monterey
107. Borbon
108. New Santander
109. Parras
110. Sombrerete
111. S. Juan del Rio
112. Durango
113. Sinnori
114. Culiacan
115. Mazatlan
116. Chamala
117. Acaponeta
118. Teresa
119. Valparaiso
120. Zacatecas
121. Real de Ramos
122. Malehuala
123. Llera
124. Tampico
125. Altamira
126. Luis Potosi
127. Aguas Calientes
128. Tepic
129. Santiago
130. Piedra Blanca
131. Tecototlan
132. Tequila
133. Guadalaxara
134. Salamanca
135. Queretaro
136. Panuco
137. Tuspan
138. Jalasingo
139. Cadereita
140. Valladolid
141. Uruapo
142. Pascuaro
143. Zacualco
144. Colima
145. Xala
146. Zacatula
147. Petatlan
148. Acapulco
149. Chilpananga
150. Tasco
151. Mexico
152. La Puebla
153. Xalapa
154. Vera Cruz
155. Guatusco
156. Oaxaca
157. Mistepec
158. Tehuantepec
159. Chiapa
160. Tustla
161. V. Hermosa
162. Tabasco
163. Sumasinta
164. Sabancui
165. Campeche
166. Merida
167. Lugartos
168. Valladolid
169. Muall
170. Salamanca de Bacalar.

GUATEMALA.
1. Maquilapa
2. Gueguetlan
3. Copanabastlan
4. Los Dolores
5. Gueguetenango
6. Zobaya
7. Old Guatemala
8. Guatemala
9. Sonsonate
10. Coban
11. S. Cruz
12. Gualan
13. S. Salvador
14. S. Miguel
15. Tegucigalpa
16. Comayagua
17. Morales
18. Omoa
19. S. Barbara
20. Truxillo
21. S. J. de Orlancho
22. Dantia
23. New Segovia
24. Realejo
25. Leon
26. Granada
27. Nicaragua
28. Nicoya
29. Cartago
30. Landecho
31. Fort S. Carlos
32. La Taen
33. Blewfields
34. Jalover
35. Mosquitos
36. Crata.

Rivers and Lakes.
a Los Mongos, R.
b S. Sacramento, or Timpanogos, R.
c S. Buenaventura, R.
d Las Truches, R.
e Los Martires, R.
f Teguayo, L.
g Timpanogos, L.
h S. Buenaventura, R
i Saludo, R.
j Colorado, R.
k Gila, R.
l Ascension, R.
m Hiaqui, or Sonora, R.
n Culiacan, R.
o Nasas, R.
p Grande de Santiago, R.
q Chapala, R.
r Zacatula, R.
s Nicaragua, L.
t Yare, R.
u Izaval, L.
v Moctezuma, R.
w Rio del Norte, R
x Colorado, R.
y Canadian, R
z Rajio, R.

As soon as it begins to slope down towards the sea, it becomes exposed to humid winds and frequent fogs; and a vegetation of uncommon strength and beauty is nourished by these aqueous vapours. The descent, suddenly becoming rapid, terminates in the narrow plain along the sea-coast, a tract in which the richest tropical productions spring up with a luxuriance scarcely to be paralleled. Yet while the climate is thus prolific of vegetation in the finest and most gigantic forms, it is almost fatal to animal life; two consequences which, according to Humboldt, are in this climate almost inseparable. The Spaniards, terrified by the pestilential air, have made this plain only a passage to the higher districts, where even the native Indians chose rather to support themselves by laborious cultivation, than to descend into the plains, where every luxury of life is poured forth in ample and spontaneous profusion. The slope by which the table-land descends to the Mexican Gulf is so steep that, till the road very recently constructed, no species of carriage was able to ascend. Between the western coast and the table-land intervene four long and steep ridges, which are difficult to traverse. Hence the conveyance of goods to the city of Mexico, and from one ocean to the other, had been effected solely on the backs of mules. Another great commercial disadvantage of Mexico is, that its eastern coast, against which the trade-winds are continually driving an accumulation of sand, is destitute of a single good harbour; for this name, according to Humboldt, cannot be given to that most dangerous of all anchorages, which is found at Vera Cruz. The western coast, indeed, has, in Acapulco and Guaymas, two of the most magnificent ports in the world; but the coast, exposed to the entire breadth of the Pacific, is, for several months of the year, rendered unapproachable by tempests.

The rivers of Mexico are not very numerous, nor, in general, of considerable magnitude. The principal is the Rio del Norte or Bravo, which, rising in the northern part of the country, flows, by a south-easterly course of about 1500 miles, chiefly through wild and savage tracts infested by the Apaches and Camanches, into the Gulf of Mexico. The Sacramento, and Buenaventura are large rivers of Upper California of which, however, our knowledge is slight. The Colorado of the west is a large river, but its course is through countries thinly peopled and little known. It falls into the Gulf of California, after receiving the Gila, a considerable stream. The rivers of tropical Mexico are mostly mere torrents, which rush down from its table-land, and, from the structure of the country, reach the sea after a short course. They pour down remarkable waterfalls, among which that of Regla (*fig.* 1029.), broken by volcanic rocks, and fringed with noble trees, forms one of the most picturesque spots in the world. The Panuco or Tampico, the Usumasinta, and the Balize are, however, considerable streams on the eastern coast; and the Zacatula, Rio Grande or Tololotlan, and Hiaqui, on the western.

1029

Cascade of Regla.

The lakes of Mexico are very numerous, and appear to be the remains of others, of vast extent, which formerly covered a much larger proportion of this lofty plain. The valley of Mexico is covered with small lakes, which occupy nearly a fourth of its surface; but the only one on a great scale is that of Chapala, in New Galicia, which Humboldt estimates to contain an area of about 1300 square miles.

Sect. II.—*Natural Geography.*

Subsect. 1.—*Geology.*

In the Old World, granite, gneiss, mica slate, and clay slate often form the central ridges of the mountain chains; but in the Cordilleras of America these rocks seldom appear at the surface, being covered by masses of porphyry, greenstone, amygdaloid, basalt, obsidian, and other rocks of the same class. The coast of Acapulco is composed of granite; and as we ascend towards the table-land of Mexico, we see it rise through the porphyry for the last time between Zumpango and Sopilote. Farther to the east, in the province of Oaxaca, granite and gneiss occur in the extensive elevated plains, traversed by veins of quartz containing gold. The geognostical relations of the secondary sandstone, limestone, and gypsum, met with in Mexico, are very imperfectly understood.

Mexican Volcanoes.—In Mexico appears to commence the great chain of volcanic mountains, which extends with little interruption from lat. 24° N. to lat. 2° S. The most northern volcanic rocks in this country occur near the town of Durango, in lat. 24°, long. 104°; but no active volcanoes are met with until we reach the parallel of the city of Mexico; and here, nearly in the same line, five occur, so placed that they appear derived from a fissure traversing Mexico from W. to E., in a direction at right angles to that of the great mountain chain, which, extending from N.W. to S.E., forms the great table-land of Mexico. The most eastern of these, that of Tuxtla, is situated a few miles west of Vera Cruz. It had a considerable eruption in 1793, the ashes of which were carried as far as Perote, a distance of 57 leagues. In the same province, but farther to the west, occur the volcano Orizava, the height of which is 17,370 feet, and the peak of Popocatepetl, 500 feet higher, the loftiest mountain in New Spain. The latter is continually burning, though for several centuries it has ejected from its crater only smoke and ashes. On the western side of the city of Mexico are the volcanoes of Jorullo and Colima. The height of the latter is estimated at about 9000 feet. It frequently throws up smoke and ashes, but has not been known to eject lava. The volcano of Jorullo, situated between Colima and the city of Mexico, is much more recent than the others; for it is known to have made its appearance so late as the year 1759. In the month of June, of that year, according to Humboldt, a subterraneous noise was heard in the district of Jorullo. Hollow sounds of the most frightful nature were accompanied by frequent earthquakes, which succeeded each other for from fifty to sixty days, to the great consternation of the inhabitants of the district. From the beginning of September every thing seemed to announce the complete re-establishment of tranquillity, when, in the night of the 28th and 29th, the horrible subterraneous noise recommenced. The affrighted Indians fled to the mountains. A tract of ground, from three to four square miles in extent, rose up in the shape of a bladder. The boundaries of this convulsion are still distinguishable from the fractured strata. The *malpays* or volcanic ground near its edges is only thirty-nine feet above the old level of the plain, called *Las Playas de Jorullo;* but the convexity of the ground thus thrown up increases progressively towards the centre to a height of 524 feet. Those who witnessed this great event from the mountains assert, that flames were seen to issue forth for an extent of more than half a league, that fragments of burning rocks were thrown vast heights, and that through a dense cloud of ashes lighted up by volcanic fire, the softened surface of the earth was seen to swell like an agitated sea. The rivers Cuitimba and San Pedro precipitated themselves into the burning chasms. Eruptions of mud, and especially strata of clay, enveloping balls of decomposed basalt in concentrical layers, appear to indicate that subterraneous water had no small share in producing this striking phenomenon. Thousands of small cones, from six to ten feet in height, called by the natives *hornitos* (furnaces) issued forth from the *malpays*, having still a temperature of 212° Fahr. Each small cone is a *fumarole*, from which a thick vapour ascends to the height of from twenty to thirty feet. In many of them a subterraneous noise is heard, which appears to announce the proximity of a fluid in ebullition. In the midst of the furnaces, six large masses, elevated, from 300 to 1600 feet each, above the former level of the plain, sprang up from a chasm, which ranges from N.N.E. to S.S.W. The most elevated of these enormous masses is the great volcano of Jorullo. It is continually burning, and has thrown up from its north side an immense quantity of scorified and basaltic lavas, containing fragments of primitive rocks. These great eruptions of the central volcano continued till the month of February, 1760; since which period they have become less frequent.

The five active volcanoes just noticed appear to be connected by a chain of intermediate ones running in a parallel direction, and exhibiting evident indications of a similar origin. Thus, Orizava is connected with Popocatepetl by the Cofre de Perote, and with Jorullo by the extinct volcano of Mexico, called Iztaccihuatl; and the geognostical structure of them and all those high mountains that rise above the table-land of Mexico on the same parallel appears to be the same, being composed of trachyte, from apertures in which the existing volcanoes act.

The same law prevails in the states of Guatemala and Nicaragua, which lie between Mexico and the Isthmus of Darien; but the volcanoes here, instead of being placed nearly at right angles to the chain of the Cordilleras, run parallel to it. In these provinces no less than twenty-one active volcanoes are enumerated, all of them contained between 10° and 15° N. lat. Those which have been most lately in a state of eruption are Los Fuegos of Guatemala, Isalco, Momotombo, Talica, and Bombacho.

Ores, &c.—Tin ore, which occurs so abundantly in some districts in the Old World, appears but sparingly in Mexico. The mines of Comanja, which are situated in syenite, afford veins of silver ore; and the most copious mines in America, those of Guanaxuato, are situated in a vein of silver, which intersects a primitive clay slate, passing into talc slate. Many of the Mexican porphyries are rich in gold and silver. These rocks are characterised by the general presence of hornblende and the absence of quartz; and of the felspars, the ryakolite, or glassy felspar, is the most frequent. The rich gold mine of Villalpando, near Guanaxuato, traverses a porphyry, the basis of which is allied to phonolite, and in which hornblende is very rare. The veins of Zuriapan traverse porphyries, having a basis of greenstone, which rock, as is frequently the case, contains many interesting minerals, such as mesotype, stilbite, tremolite, asbestos, green garnet, fluor spar, chrysoprase, fire opal, sulphur, carbonate and chromate of lead, and orpiment. The rich silver mines of Real del Monte, Pachuca, and Moran, are situated in porphyry.

The transition rocks of Mexico which most abound in ores are limestone and greywacke;

the transition limestone affords ores of silver at Real del Cardonal, Xacala, and Lomo del Toro, to the north of Zuriapan; and rich silver mines are situated in the rocks of the greywacke group.

The secondary deposits most prolific in ores are those of the limestone series: thus we are told that the silver mines of the Real de Catorce, as well as those of El Doctor and Xaschi, near Zuriapan, traverse what Humboldt describes under the name of alpine limestone. In that and the formation named by the same author Jura limestone, are situated the famous silver mines of Tasco and Tehuilotepec, in the intendency of Mexico.

The mean produce of the mines of New Spain, including the northern part of New Biscay and those of Oaxaca, is estimated at about 1,541,015 troy pounds of silver,—a quantity equal to two-thirds of what is annually raised from the whole globe, and ten times as much as is furnished by all the mines in Europe. On the other hand, Humboldt remarks, the produce of the Mexican mines in gold is not much greater than those of Hungary and Transylvania; amounting, in ordinary years, only to 4315 troy pounds.

The silver obtained from the Mexican mines is extracted from different ores. Most of it is obtained from silver glance, or sulphuret of silver, arsenical gray silver ore, horn ore or muriate of silver, black silver ore, and red silver ore. Native silver is useless in the northern districts. In Mexico there are about 500 towns or principal places, which afford silver. These 500 places comprehend together about 3000 mines, and there are between 4000 and 5000 veins and other repositories of silver.

Copper, iron, lead, and mercury are also procured in Mexico, but in small quantities, although there appears to be no deficiency of the ores of any of these metals.

Subsect. 2.—*Botany.*

Mexico naturally connects the vegetation of North and of South America, though it has a greater similarity with the latter in its climate and productions; but the mountains are not so lofty, the great chain of the Cordilleras being twice interrupted within its limits. The northern Cordillera at Nicaragua exhibits the first indication of depression, but again rears itself for a time in the province of Veragua, and is there crowned with a very fine plain, called the Table. In the eastern part of the province, it breaks into detached mountains of considerable height, and of the most abrupt and rugged formation; thence, proceeding still to the eastward, innumerable sugar-loaf hills appear, not above 300 or 400 feet high, with their bases surrounded by plains and savannahs; and, finally, about Chagres on the one hand, and Chorrera on the other, these also disappear for a few miles, and the country becomes almost uninterruptedly low and flat. Presently, however, the sugar-loaf mountains again thicken, and, becoming connected, form a small cordillera, running from about opposite Porto Bello to the Bay of Mandingo; where is the second break. The land then continues low through the province of Darien and Choco, and is most abundant in rivers; those on the north side tending to the Gulf of Uraba or Darien, and those on the south to that of St. Miguel: beyond which point the cordillera again raises itself on an extended scale, and enters South America. The vegetation of the isthmus is very luxuriant, the fruits and vegetables like those of other similar intertropical countries. The grain cultivated is Rice and Indian Corn. The Sugar-Cane is grown, but not extensively. Coffee and Cacao are raised for domestic consumption. The Caoutchouc tree, Milk tree (*Palo de Vaca*), and Vanilla plant abound in the woods. The charcoal made from many of the trees is considered excellent for smelting; and, as such, is exported to Peru, and is in much request there. Some of them yield very rich and brilliant dyes, used by the Indians, but not yet in commerce. The barks of others are medicinal, or abound in tannin. Ink is made both from gall-nuts and a bush called Alsifax, resembling the Caper. Many valuable resins are extracted from different trees; particularly one, distilled from the bark of a tree called the Palo Santo, or holy tree, which is highly fragrant, and used both as a remedy for disorders and to burn as incense. The Styrax officinalis of Linnæus is very abundant, the gum extracted from it selling at two dollars the pound. With the gum flowing from the Caoutchouc tree, while yet liquid, the inhabitants manufacture a sort of water-proof cloth, on the same principle as that prepared in this country. In the vigour and varieties of its woods, the isthmus challenges competition with any part of the world, according to Mr. Lloyd; who, in the Transactions of the Geographical Society of London, enumerates no less than ninety-seven kinds, of which he has communicated specimens to that institution.

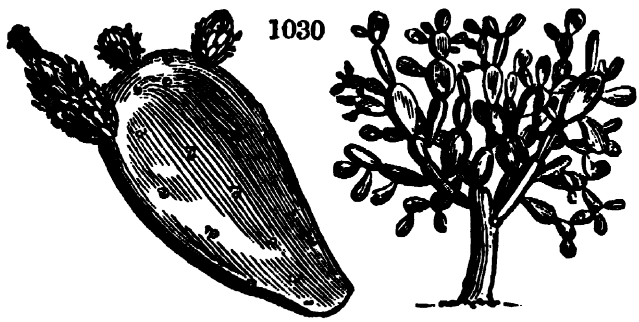
The Mexican republic, which extends from lat. 15° to lat. 42°, presents, by reason of its geographical position, all the modifications of climate which we should find in passing from the Senegal river [illegible] Spain, or from the coasts of Malabar to Bucharia. This variation of climate is increased by the geological structure of the country, and by the mass and extraordinary form of the mountains of Mexico. Upon the summit and slope of the Cordillera the temperature differs according to the elevation; and it is not the solitary peaks alone, whose summits, near the limit of perpetual snow, are covered with firs and oaks; whole provinces produce spontaneously alpine plants; and the agriculturist, dwelling in the torrid zone, loses all his hopes of harvest from the effect of frost or the abundance of snow. From this order of things, it may easily be imagined that, in so mountainous and extensive a country as Mexico, there is an immense variety of indigenous productions, and scarcely a plant exists on the globe which cannot be cultivated in some part of the country.*

No better idea, perhaps, of the general aspect of the vegetation in a much frequented portion of the empire can be conveyed than by the journal of a German botanist, Schiede, very recently published in the *Linnæa*, to which we must beg to refer our readers for a description of the country between Jalapa and Mexico.

In Mexico the people not only obtain an agreeable drink from the saccharine substance of Maize, Manioc, Banana, and the pulp of some Mimosas; but they also cultivate a species of the Pine-Apple family (*Agave americana*) in order to convert its juice into a spirituous fluid. Wide tracts of country present nothing but fields of Maguey, whose long, sharp, and thorny leaves contrast strangely with the glossy and tender texture of the foliage of Bananas. It is not till after eight years that this plant shows signs of flowering, and affords the "honey" (as it is called) which is used for making Pulque. The interior is cut out, and the hollow continues for two or three months to afford daily a large quantity of sap, amounting, sometimes, to the enormous quantity of 15 quartillos, or 375 cubic inches, daily, for four or five months. This is the more astonishing, as the Agave plantations are always situated in the most arid spots, where hardly any soil covers the rocks. The culture of the Agave possesses many advantages over Maize, Wheat, or Potatoes, as the plant is not affected by the drought, frost, or hail, which so often prevail on the high parts of the Mexican Cordillera. The stalk perishes after flowering, and an immense number of suckers spring up in its place. The man who plants 30,000 or 40,000 stems of Maguey is sure of leaving his family rich, though it requires patience and courage to persevere in a culture which will not be profitable in less than fifteen years. In good soil, the Agave sends up its flowering stem in five years; in a poor soil, not sooner than in twenty. The "honey" or juice of the Agave is a very pleasant subacid; and ferments readily, owing to the saccharine and mucilaginous properties that it contains. The smell, however, of the liquor that is obtained is most putrid and disgusting, but those Europeans who have overcome their dislike to it, prefer Pulque to every other drink. The Indians consider it to be stomachic, strengthening, and nutritious, and speak in rapture of the excellence of that which is made at Tlocotitlan, where the peculiar soil gives a remarkable flavour to the beverage, and where there are plantations of Agave that annually yield more than 40,000 livres of rental. The Maguey was not only the Vine but the Papyrus and the Hemp of the ancient Mexicans, who painted their hieroglyphics on paper made of the fibres of its leaves. A thread called *pita*, which has the advantage of never twisting, is still used that is prepared from it, and its thorns serve, like those of the Cactus, for pins and nails. A highly intoxicating spirit is also extracted from the Maguey. Vanilla, of which we have already made mention, abounds in Mexico; though the natives take no pains to cultivate so valuable a plant.

The *Cactus coccinellifer* (*fig.* 1030.), which nourishes the valuable Cochineal Insect, is a native of Mexico, and was cultivated for the sake of the precious dye which the insect affords, long before the conquest of that country, the plantations being called Nopaleros. From the district of Oaxaca alone the amount exported has been estimated at above 500,000*l.* sterling, and the annual consumption of cochineal in Great Britain only is about 750 bags, or 150,000 lbs., valued at 275,000*l.*; "a vast amount," as the authors of the *Introduction to Entomology* well observe, "for so small a creature, and well calculated to show us the absurdity of despising any animals on account of their minuteness." The plant bears much resemblance to the Cactus Opuntia, or Prickly-Pear, and is easily cultivated in dry rocky spots: the Cochineal Insect is, in general appearance, not very dissimilar to the Meal-Bug of the gardens, and equally covered with a white powdery substance. The male insects, which are comparatively few in number, are winged: when the females are with young, they are placed on different Cactus plants, which is called sowing them. Here they increase rapidly in size and numbers, and, four months after, the harvest commences; when the insects are brushed off with a squirrel's or deer's tail, by the women, who sit for hours under one Nopal plant, and kill them, sometimes by immersion in boiling water, sometimes by exposure to the sun, or in the vapour-baths of the Mexicans. By the latter method, the powdery substance is preserved, which increases the value of the insects in commerce.

1030



Cactus Coccinellifer.

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* Humboldt's *Hist. de la Nouvelle Espagne.*

Atlixco, in Mexico, is justly celebrated for the abundance and excellence of the chirimoya (*Anona cherimolia*) which it produces. This is cultivated in many of the hotter parts of South America, and justly ranks as one of the best fruits of the country.

1031

Hand Plant.

The Cheirostemon, or Hand Plant (*fig.* 1031.), was discovered by Humboldt, in 1801, forming immense forests in the province of Guatemala, in New Spain. From time immemorial, a single individual of this tree had been cultivated in the gardens of Tztapalapan, where it was said to have been planted by Montezuma before the conquest of Peru; and the Indians attached a religious veneration to it, believing that not another specimen existed or would exist in the world. This taste for horticulture still prevails among the Mexicans, who delight in dressing with garlands the stands where they vend vegetables or pulque, and arrange nosegays of freshly gathered flowers among the Peaches, Pine Apples, and Sapotillas which they display.*

The true Jalap (*Purga de Xalapa*), that well-known and potent medicine, is the root, not, as is sometimes supposed, of Mirabilis Jalapa, but of the Convolvulus Jalapa, a climbing plant which grows, at a height of 1300 or 1400 mètres, in many parts of Mexico, delighting in cool shady situations, among woods and on the slope of the mountains. It is singular that it is likewise found in the hot province of Vera Cruz, in sandy arid spots, near the level of the sea, and that M. Michaux should also have met with it in Florida. The annual consumption of Jalap in Europe has been stated at 7500 quintals, an amount which Humboldt thinks must be considerably over-stated. Its price at Xalapa, when the largest quantity is obtained, is from 120 to 130 francs the quintal of about 100 lbs.

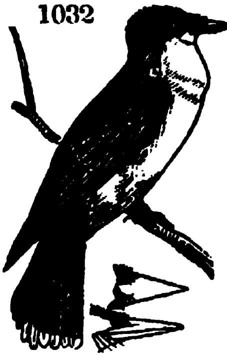
The Dahlias, those universal favourites, whose many-coloured blossoms give such splendour to our parterres at a season when the approach of winter renders them doubly valuable, as well as many other semi-hardy plants, are natives of the cool and hilly parts of Mexico.

SUBSECT. 3.—*Zoology*.

The Zoology of these interesting regions has only of late been partially made known to modern science; for, notwithstanding the munificent liberality of the court of Spain in sending Hernandez for the express purpose of investigating the animal productions of the New World, the result of his mission was unattended either by commercial or scientific advantages. Vague and trivial notices, accompanied only by barbarous Indian names, rendered the works of Hernandez nearly unintelligible even to the European naturalists of that age, and the author and his book have long since passed into oblivion. The political events of the last few years have now opened the natural riches of Mexico to the researches and the enterprise of Europeans. And although the zoological gleanings hitherto made on the table-land have been very local, and comparatively scanty, they are sufficient to give some general idea of the probable nature of the whole, at least so far as concerns the geographic distribution of the ornithology; the only department in which we possess, as yet, any collections. To this, consequently, we must from necessity restrict our notice; since the others, slightly mentioned in the narratives of the old travellers, cannot be recognised or named by the moderns. There is, as we have already observed, sufficient reason to believe that the union of the southern and northern American Fauna takes place on that high table isthmus which geographically divides the two most prominent divisions of the New World; and this idea will receive some confirmation by the following details.

The following Birds are common both to Mexico and the United States:—

1032



King-Bird.

Buteo borealis. Northern Buzzard.
Circus americanus. American Harrier.
Accipiter pennsylvanicus *Sw.* Pennsylvanian Hawk.
Strix virginiana *L.* Virginian Horned Owl.
Tyrannus intrepidus *Vieil.* King-bird. (*fig.* 1032.).
Tyrannula Saya *Sw.* Say's Tyrant.
Merula migratoria *Sw.* Red-breasted Thrush.
Orpheus polyglottus *Sw.* Mocking Thrush.
Sialia Wilsoni *Sw.* Wilson's Bluebird.
Seiurus aurocapillus *Sw.* Golden-crowned Tit.
Seiurus aquaticus *Sw.* Water Tit.
Trichas personatus *Sw.* Maryland Yellow-throat.
Sylvicola americana *Sw.* Blue-backed Warbler.
Sylvicola Blackburnia *Sw.* Blackburnian Warbler.
Sylvicola æstiva *Sw.* Yellow Warbler.
Sylvicola flavicollis *Sw.* Yellow-throated Warbler.
Sylvicola coronata *Sw.* Yellow-crowned Warbler.
Vermivora solitaria *Sw.* Worm-eating Warbler.
Setophaga ruticilla *Sw.* Redstart Warbler.
Alauda cornuta *Wilson.* Shore Lark.
Fringilla socialis *Wilson.* Social Sparrow.
Pyrrhula frontalis *Bon.* Bullfinch Linnet.
Dolichonyx oryzivorus *Sw.* Rice Bird.
Vireo olivacea? *Bon.* Red-eyed Warbler.
Agelaius phœniceus *Sw.* Red winged Starling.
Molothrus pecoris *Sw.* Cowbird.
Sturnella ludoviciana *Sw.* Crescent Starling.
Xanthornus baltimora *C.* Baltimore Hangnest.
Dendrocopus varius *Sw.* Varied Woodpecker.
Guiraca ludoviciana *Sw.* Rose-breasted Grosbeak.
Guiraca cærulea *Sw.* Blue Grosbeak.
Mniotilta varia *Vieil.* Black and White Creeper.
Sitta carolinensis *L.* Carolina Nuthatch.
Alcedo americana *L.* Great American King-fisher.

The above species are mostly migratory, visiting the United States to breed, and returning southward. It does not appear, however, that they pass beyond the Mexican Gulf; since not one, out of the whole thirty-five, has yet been discovered on the Terra Firma.

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* Humboldt and Bonpland, *Voyage et Essai sur la Nouvelle Espagne*, vol. i. p. iii. page 98.

The next list comprises those birds which we were the first to describe as new species, peculiar to Mexico. (*Phil. Mag.*, June, 1827.). They are unknown in the United States, nor have they yet been detected on the main land of South America:—

Hirundo thalassinus *Sw.* Sea-green Swallow.
Tyrannula affinis *Sw.* Mexican Pewee Tyrant.
Tyrannula obscura *Sw.* Obscure Tyrant.
Tyrannula barbirostris *Sw.* Bearded Tyrant.
Tyrannula nigricans *Sw.* Blackish Tyrant.
Tyrannula musica *Sw.* Musical Tyrant.
Tyrannula ornata *Sw. sp. nov.* Crested Tyrant.
Setophaga miniata *Sw.* Red-bodied Flycatcher.
Setophaga picta *Sw.* Painted Flycatcher.
Setophaga rubra *Sw.* Red Flycatcher.
Setophaga rufifrons *Sw. sp. nov.* Yellow-throated Flycatcher.
Tyrannus crassirostris *Sw.* Thick-billed Tyrant.
Tyrannus vociferans *Sw.* Calling Tyrant.
Ptiliogonys cinereus *Sw.* *Zool. Ill.* pl. 62. 120. Cinereous Berry-eater.
Ptiliogonys nitens *sp. nov.* Black Berry-eater.
Cinclus americanus *Sw.* American Water-ouzel.
Merula flavirostris *Sw.* Yellow-billed Thrush.
Merula tristis *Sw.* Sad-coloured Thrush.
Merula silens *Sw.* Silent Thrush.
Orpheus curvirostris *Sw.* Long-billed Mocking-bird.
Orpheus cærulescens *Sw.* Blue Mocking-bird.
Sialia mexicana *Sw.* Mexican Robin.
Sylvicola inornata *Sw.* Plain Warbler.
Pipilo maculata *Sw.* Spotted Chickfinch.
Pipilo macronyx *Sw.* Long-clawed Chickfinch.
Pipilo fusca *Sw.* Brown Chickfinch.
Pipilo rufescens *Sw.* Chestnut Chickfinch.
Chondestes strigatus *Sw.* Striped Finch
Fringilla cinerea *Sw.* Ash-coloured Finch.
Carduelis mexicanus *Sw.* Mexican Goldfinch.
Cassicus coronatus *Sw.* Crowned Hangnest.
Agelaius longipes *Sw.* Long-legged Maize-bird.
Xanthornus Bullockii *Sw.* Bullock's Hangnest.
Icterus melanocephalus *Sw.* Black-headed Hangnest.
Icterus crassirostris *Sw.* Thick-billed Hangnest.
Icterus cucullatus *Sw.* Hooded Hangnest.
Icterus mexicanus *Leach.* Mexican Hangnest.
Quiscalus palustris *Sw.* Marsh Boattail.
Cyanurus coronatus *Sw.* Coronated Jay.
Cyanurus formosus *Sw.* Famous Jay.
Tanagra erythrocephala *Sw.* Red-headed Tanager.
Pyranga livida *Sw.* Livid *Redbird.*
Pyranga hepatica *Sw.* Mexican Redbird.
Pyranga bidentata *Sw.* Double-toothed Redbird.
Tiaris pusillus *Sw.* Little Grosbeak.
Guiraca melanocephala *Sw.* Black-headed Grosbeak.
Psittacus leucorhynchus *Sw.* White-billed Parrot.
Macrocercus mexicanus *Sw.* Mexican Mackaw.
Ramphastos carinatus *Sw.* Carinated Toucan.
Melanerpes formicivorus *Sw.* Ant-eating Woodpecker.
Melanerpes elegans *Sw.* Elegant Woodpecker.
Melanerpes albifrons *Sw.* White-fronted Woodpecker.
Colaptes Mexicanus *Sw.* Crimson-shafted Woodpecker.
Xiphorhynchus leucogaster *Sw.* White-throated Tree climber.
Xiphorhynchus flavigaster *Sw.* Yellow-throated Tree-climber.
Coccyzus Mexicanus *Sw.* Mexican Cowcul.
Crotophaga sulcirostris *Sw.* Groove-billed Ani.
Trogon Mexicanus *Sw.* *Zool. Ill.* pl. 82. 107. Mexican Trogon
Trogon Morganii *Sw.* Morgan's Trogon.
Trochilus fulgens *Sw.* Refulgent Humming-bird.
Trochilus thalassinus *Sw.* Sea-green Humming-bird.
Trochilus platycercus *Sw.* Broad-tailed Humming-bird.
Cynanthus latirostris *Sw.* Broad-billed Humming-bird.
Cynanthus bifurcatus *Sw.* Double-fork-tailed Humming-bird.
Cynanthus minimus *Sw.* Little Fork-tailed Humming-bird.
Cynanthus Lucifer *Sw.* Mexican Star Humming-bird.
Lampornis amethystinus *Sw.* Amethystine Humming bird.
Prionites Mexicanus *Sw.* *Zool. Ill.* pl. 81. Mexican Motmot.

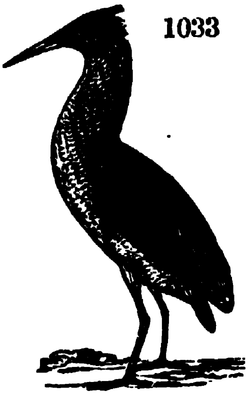
The third list exhibits such few species as have been likewise observed on the Terra Firma; but are unknown to inhabit the north of America:—

Aquila destructor *Daud.* Destroying Eagle.
Polyborus brasilianus *Vieil.* Brazilian Caracara.
Buteo pterocles *Sw.* Long-winged Buzzard.
Circus rutilans *Sw.* Chestnut Harrier.
Tyrannula coronata *Sw.* Round-crested Flycatcher.
Tyrannula cayenensis *Sw.* Cayenne Flycatcher.
Tyrannus griseus *Vieil.* Gray Tyrant.
Saurophagus sulphuratus *Sw.* Bentivi Tyrant.
Icterus dominicensis *Daud.* Domingo Hangnest.
Macrocercus militaris *Sw.* Military Mackaw.
Trochilus melanotis *Sw.* Black-eared Humming-bird.

It results from this enumeration, that of 113 species of land birds, hitherto ascertained, by us, to be natives of Mexico, 68 appear to be altogether peculiar to that country, 11 are also natives of South America, and 34 of North America. These facts, so important in illustrating the great principles of animal distribution, are in themselves so valuable, that we could not withhold them from the scientific reader. It will, however, be unnecessary to enter on similar details regarding the water birds; as of twelve species of the Duck family, sent from the lakes of Real del Monte, not one possessed any novelty, the whole belonging to those species distributed over North America.

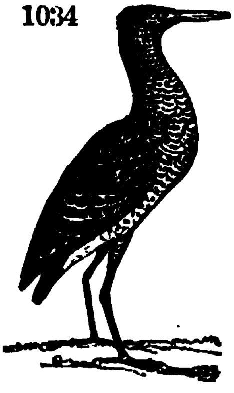
Among the Wading Birds are two most beautiful species of Tiger Bitterns, hitherto unknown to naturalists, and which, in fact, we have not yet regularly described. One, the *Tigrisoma lineata*, or Lineated Bittern (*fig.* 1033.), is entirely waved with fine fulvous lines; the other, *T. mexicana*, has these lines enlarged into broader bands, while the chin, and part of the throat, are naked (*fig.* 1034.). The American Bittern, which here represents that of Europe, is also a common bird, and, from its smaller size, it is called *Butor minor* (*fig.* 1035.).

1033



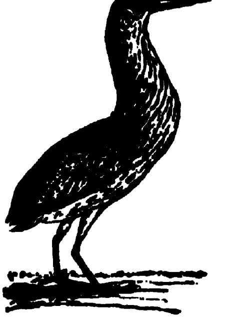
Lineated Bittern.

1034



Mexican Bittern.

1035

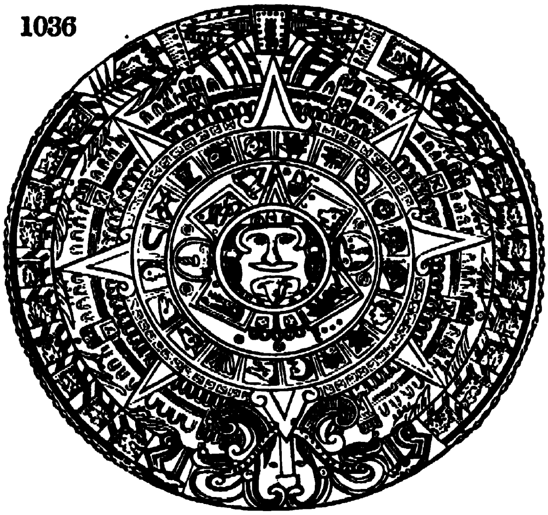


American Bittern.

The Quadrupeds, Insects, &c., are too little known, to permit any satisfactory account being given of them. The only quadrupeds brought home by Mr. Bullock were a new Lynx, the Canadian Porcupine, two small Monkeys, and a small Tiger Cat. Deer and Antelopes, of some unknown species, are found on the table-land, while the Bison, according to Mr. Ward's admirable account of Mexico, is stated to visit Texas in great herds.

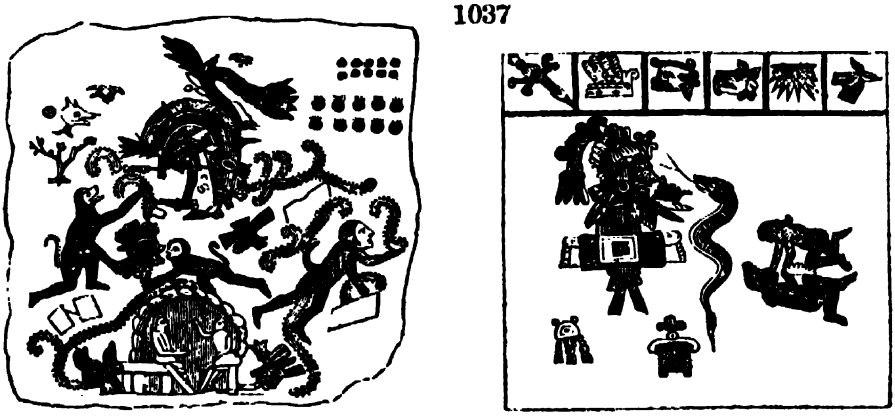
Sect. III.—*Historical Geography.*

1036



Mexican Calendar.

1037



Mexican Hieroglyphics.

Before the arrival of the Spaniards, Mexico formed the most powerful and populous, and, with one doubtful exception, the most civilised empire of any in the western world. Estalla and some other writers have argued, that Mexico contains now a greater number of people than at any former period; but the numerous ruined cities traced by Humboldt convinced that traveller of the contrary, at least as to the space comprised under the empire of Montezuma. The plan, too, of ancient Mexico, recently found by Mr. Bullock, shows it to have been greater than the modern city. This empire also had attained in several respects to no inconsiderable height of civilisation. The Mexicans had a calendar, of which a representation is here given (*fig.* 1036.), more accurate than that of the Greeks and Romans; they built large cities, lofty and regular pyramids; they smelted metals, and cut the hardest stone; and they recorded events by paintings of a peculiar character, which were little inferior to the hieroglyphics of Egypt. Two specimens of these ancient paintings are here exhibited (*fig.* 1037.). There existed a regular gradation of ranks in the empire, and the exorbitant power and pride of the nobles were contrasted with the almost enslaved state of the body of the people. The independent republics of Tlascala and Cholula afforded indications of a certain advance in political science, alloyed, however, by the most fierce and dreadful barbarism. Human sacrifices offered in vast numbers, and with the most ferocious rites, assimilate their character to that of savages in their rudest state. A recent examination of the hieroglyphical tables of the Mexicans has exhibited a view of the revolutions of the empire, and has shown them to be caused by the successive inroads of migratory nations from the north. The first was that of the Toltecs, in 648, and the last of the Aztecs, in 1196. Enquiry has in vain been made after any northern people who could have brought into Mexico any tincture of civilisation; and we have ourselves no doubt that whatever civilisation there was, originated within the empire itself, though the rude conquerors might, as is usual in such cases, adopt the arts and institutions of the conquered people, still retaining deep traces of their own original barbarism.

The dominion of the Spaniards over Mexico was acquired by Cortez at the head of a band of daring adventurers, whom the possession of fire-arms and the terror produced by them rendered invincible. After a resistance not without some glory, the Aztec empire was overthrown, and Mexico, with Peru, became the brightest gems in the Spanish crown. There appears no doubt that a great part of the nation, including most of the nobility and priesthood, perished at the time of the conquest; but considerable numbers still survived, and continued to live in separate villages, with a local jurisdiction. Although the country was in all respects ill governed, yet the hopes of immense wealth attracted a number of Spanish emigrants, who gradually multiplied in a country abounding with the necessaries of life. Even the Indians, whom the Spaniards at last sought to protect, increased their numbers in the course of the last century, and from the intercourse between the two races a very numerous mixed tribe originated.

The spirit of revolution and independence, which was gradually diffused in the mildly governed English colonies, did not, for some time, reach those under the Spanish sway. The habits of implicit submission, and the ignorance which accompanied it, prevented all but a few daring spirits from forming even the idea of emancipation. Yet a root of discontent was deeply lodged. The Creoles, or Spaniards born in America, were now the most numerous race, and were always increasingly preponderant. But the Spanish government, from a short-sighted policy, placed all its confidence, and vested all political power, in a small body of Spaniards sent out from Europe. The discontents of the proscribed Creoles, however, might long have fermented without explosion, had not their ties with Europe been broken by Napoleon's invasion of Spain. The principle of loyalty itself led them indignantly to repel this usurpation, and to frame a provisional government for themselves; and having once tasted the sweets of independence, they were unwilling to recognise either the local authorities established in Spain, or the supremacy of the king himself. The contest was long, bloody, and desperate; for most of the intelligence, and all the military skill and discipline, were at first on the side of the native Spaniards; but, after many vicissitudes and many dangers, both internal and external, the Mexicans succeeded in forming a constitution, nearly on the model of that of the United States.

Sect. IV.—*Political Geography.*

After the prolonged struggle for independence, the government fell into the hands of Iturbide, who caused himself to be proclaimed emperor of Mexico, in 1822. This short-lived empire was overthrown in the following year, and in 1824 the Mexicans adopted a constitution of government, formed closely on the model of that of the United States. The new federal republic was divided into nineteen States, four Territories, and a Federal District, each state being provided with its local government, while the foreign relations and general interests of the confederacy were confided to the general congress. The president and senate were chosen for four years by the respective states; the representatives for the term of two years by the people. This constitution, however, was not sufficient to prevent civil dissensions, and appeals to the sword too often decided the disputes of rival chiefs or political parties. But it continued to preserve a nominal existence, at least, until October, 1835, when it was set aside by the decrees of the general Congress, suppressing the state legislatures, and providing for the division of the country into departments. Under this new order of things, the president is to be chosen by an indirect vote, and the two houses of Congress, by direct popular vote; the executive head of each department to be appointed by the supreme national government.

Owing to the unsettled state of the country, we can give nothing certain as to the military force of the republic. The army is not large, but seems to be pretty efficient. The want of harbours must ever prevent Mexico from being a great maritime power. Little confidence can be placed in any statements relative to the finances. The annual revenue is stated to be about 15,000,000 dollars.

Sect. V.—*Productive Industry.*

As an agricultural country, Mexico has been celebrated for the vast variety of productions which can be raised, according to the different degrees of elevation of its great tabular mass of territory. It is divided into warm lands (tierras calientes), temperate lands (tierras templadas), and cold lands (terras frias). The warm lands, however, though capable of yielding in profusion all the productions of the torrid zone, are subject to so deadly a pestilence, that even the natives preferred to inhabit a poorer soil on the higher grounds; and Europeans, except the few fixed by commercial avidity, pass through it in trembling haste, as if death pursued them. The cold lands, again, are nearly devoid of vegetation, exhibiting on a few scattered spots the plants of the north. It is only on the "temperate lands," that the real and effective vegetation exists; and there the finest plants of the most genial temperate climates are produced in higher perfection than in most other parts of the known world. The Mexican wheat excels that of all other countries, both in quality and abundance, provided that by nature or art it have been supplied during growth with sufficient moisture. Such is the aridity of the soil, that artificial irrigation is usually necessary. Maize, or Indian corn, the proper grain of America, is still more generally cultivated, and forms the standing food of the people. Its harvests are equally profuse. Barley and rye (seldom oats), grow on the colder grounds, the first forming the chief food of horses. Farther down grows the banana, which, though the proper food of the torrid zone, grows so high, that Humboldt calculates 50,000 square miles may be fit for it. Of all vegetables it yields the greatest proportion of aliment with the least culture. It bears fruit in ten months after planting, and then requires only to have the stalks cut, that new shoots may spring from them, and to be dug and dressed round the roots. The amount of nutritive substance yielded by it, is to that of wheat, as 133 to 1, and to that of potatoes, as 44 to 1. The manioc root, under the same climate, can be made to produce abundance of palatable and wholesome farina. The Mexicans set much value also on the maguey, which is extensively cultivated, and yields annually about 150 quarts of a sweet juice, easily convertible into pulque, the favourite fermented liquor of the people. The most remarkable failure is that of the potato, which, though growing both in North and South America, had not reached Mexico at the time of the conquest, and is still rare and of inferior quality. Sugar, coffee, and cotton are all produced of excellent quality, but only for internal use; and cacoa, though an universal beverage, is procured by importation. Cochineal is almost the only article collected extensively for export. The culture is laborious, and has diminished of late, but the price has not increased, substitutes being employed. There is also indigo, but it is inferior to that of Guatemala. Vanilla, the flavouring material of the chocolate, is obtained in the forests of Oaxaca and Vera Cruz, and exported to the amount of 8000*l.* or 10,000*l.* value annually.

The mines, however, are the grand objects which have connected the idea of unbounded wealth and romantic splendour with the name of Mexico. Gold and silver, by a natural illusion, have always shone in the eyes of mankind with a lustre beyond that of any other metal. Peru, indeed, offers gold in greater abundance; but Mexico, since the first discovery, has produced more silver than all the rest of the world united. The silver ore of Mexico is far from rich; it seldom yields more than three or four ounces to the quintal of earth, while that of Saxony yields ten or even fifteen ounces. It is situated also very deep in the ground. The quantity, however, is in many cases immense, obtained with comparatively little difficulty; for, instead of being, as usual, placed in the heart of dreary and almost inaccessible deserts, the mines occupy the very best situations of the great table plain, are surrounded with brilliant vegetation, and with all the means of comfortable subsistence. There are 3000 mines in Mexico; most of them, however, are now unproductive, and even ruinous: but adventurers have been encouraged to begin, and to persevere while a particle of their capital remained, by the enormous profits which have, in a few instances, been realised. The most remarkable was that of the Valenciana mine, undertaken by Obregon, a poor man, who, by begging and borrowing, contrived to carry on a fruitless excavation during eleven years, till he came at length upon the great vein, which for more than thirty years yielded about 2,500,000 dollars annually. The mine of Pavellon, in the district of Sombrerete, yielded 4,000,000 dollars in six months; but its product has been by no means so steady. The purification of the metal is effected either by smelting or by amalgamation with mercury. The latter mode is considered the most eligible, especially since the forests have been thinned by the quantity already consumed in the smelting process: 16,000 quintals of mercury are required for the mines of Mexico; a quantity difficult to procure, especially while the Spanish government monopolised and retailed it at an enormous price. The produce of the mines continued increasing till the commencement of the late revolution. From 1750 to 1759, the average appeared to be 16,566,000 dollars; from 1771 to 1803, it was 19,688,000; but in the first years of the present century, the duties levied implied an amount of 22,000,000; and, allowing for contraband, the total might probably be 25,000,000. During the dreadful convulsions of the late revolution, the amount was greatly reduced, the water having in many instances been allowed to rush in, the machinery destroyed, and the workmen dispersed. The annual average produce since the revolution is not more than 12,000,000 dollars. The silver coined in the mint of Mexico, which, in 1810, amounted to the value of 17,950,000 dollars, had fallen in 1825 to 3,651,000. The mine of Guanaxuato yielded, in 1810, 511,000 marks of silver; in 1825, only 100,000. Extraordinary efforts have lately been made by British capitalists to restore and extend the produce of these mines. During the period of excited speculation in 1825, numerous companies were undertaken for this purpose; and their shares sold for some time at advancing premiums. There were also two American and one German. The English companies began their operations with the greatest spirit; it was soon found, however, that an enormous expense must be incurred before the smallest return could be hoped for. Every thing was to be erected anew—horse whims, magazines, stamps, crushing mills, and washing vats; hundreds of horses and mules were to be purchased; roads to be made; establishments to be formed for the process of amalgamation. These expenses have absorbed the subscribed capital of the companies, and the produce has not yet answered expectation, though the vein of Veta Grande in Zacatecas has yielded 3,000,000 dollars to the Bolanos Company. The value of the Mexican gold does not exceed 7000 marks, or about 1,000,000 dollars annually. The mint of Mexico is a prodigious establishment, in which all the processes are carried on with the greatest activity, though not, as Mr. Bullock conceives, with that elegance of design which might be desired. It is capable of stamping 100,000 dollars within the hour. So rapid an operation is seldom required; yet there have passed through it probably upwards of 3,000,000,000 dollars.

Manufactures in Mexico are, and must long continue, in a very rude state. A strong prejudice exists among the natives against manual labour: in consequence of which, it is chiefly confined to criminals, or persons compelled by debt to engage in it. These workmen are immured as in a prison: and high walls, double doors, barred windows, together with the severe corporal punishments often inflicted on the inmates, make these places resemble an ill-conducted gaol. There are, however, considerable fabrics of coarse red earthenware, which is used in all the operations of cookery; also manufactures of coarse woollens and cottons. The amount of these, in good times, was reckoned at 7,000,000 dollars; but declined during the troubles. Working in gold and silver has, as might be expected, been a favourite occupation. Services of plate, worth 30,000 or 40,000 dollars, have been manufactured at Mexico, which, for elegance and fine workmanship, may rival the best of the kind in Europe. Glass has also made great progress. The coaches of Mexico have long been celebrated both for good construction and beauty, it being the particular ambition of all who possibly can, to have their coach.

The commerce of Mexico does not correspond with its great fame for wealth. The exports of the precious metals form the principal article; next to this is cochineal; to which may be added, sugar, flour, indigo, provisions, vanilla, sarsaparilla, jalap, logwood, and pimento. The exports at Vera Cruz in 1824, amounted to 12,082,000 dollars, of which 7,437,000 were for European and other foreign ports; 4,360,000 for American ports; and 284,000 for other Mexican ports. The imports, consisting chiefly of manufactured goods, wine, brandy, and metals, were from Europe 1,468,000; America, 3,022,000; other Mexican ports, 202,000. Under the Spanish régime, Vera Cruz and Acapulco had a monopoly of the trade; but since the revolution, a considerable amount has centered in other ports, of which the chief are, in the northern part of the Gulf, Tampico, and Soto la Marina; Campeachy and Tabasco in the south; San Blas and Mazatlan on the western coast; and Guaymas in the Gulf of California. The value of exports from the United States to Mexico in 1834 was 4,000,000 dollars.

The roads of Mexico are tolerable, so far as they extend along the level surface of the high table-land. But the steep declivities from thence to the maritime plain along both seas, were long impassable for a carriage of any description. Before the late revolution, however, the merchants of Mexico had undertaken a most magnificent highway, so judiciously adapted to the declivities, that loaded wagons could ascend from Vera Cruz upwards to Mexico, and thence down to Acapulco. This public work was interrupted by the late revolution, and was found by recent travellers in an unfinished and neglected state; but it can scarcely be doubted that the new government will soon avail themselves of the means they now possess, to complete so important an undertaking

Sect. VI.—*Civil and Social State.*

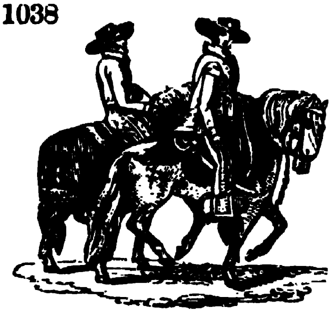
The population of Mexico, which had previously been estimated on the most vague conjecture, has been computed by Humboldt with extraordinary care. He copied from the archives of the viceroy a statement containing the results of an enumeration made in 1793, by which the number was rated at 4,483,529. This census was taken, however, in opposition to those popular apprehensions and prejudices with which such an enumeration is always viewed; and the real amount might be at least a sixth more, or 5,200,000. After carefully comparing the numbers of births and deaths, and observing the progress of agriculture, the increased amount of duties on consumption, and the many new houses everywhere building, he considers that the population of 1823 might be safely estimated at 6,800,000. It has since been rated at 10,000,000, but seemingly too high, considering that, by the war, not only a multitude of the inhabitants has perished, but that many of the sources of industry have ceased to be productive. The best authorities seem to reckon the present population at about 8,000,000.

The classes of society are singularly varied, and are characterised by distinctions more striking than those observable in other countries. They are four, more distinct and almost more alien to each other than if they were separate people, actuated by the strongest sentiments of national rivalry. Those classes are, native Spaniards; Spaniards born in America; the mixed castes; and the Indians.

The native Spaniards, called Chapetones, did not exceed 70,000 or 80,000, and the greater number of these have now been expelled; but, prior to the late revolution, the court of Madrid, either through jealousy of the Americans, or through personal interest, bestowed exclusively upon them every office in its colonies. They deported themselves as beings of a decidedly superior order to the Creole Spaniards, who, they openly asserted, were an effeminate and ignorant race, incapable of any elevated and liberal occupation. They are now fallen from their high estate. They are stripped of all their honours and dignities; many of them reduced to extreme poverty, and allowed only to exist under strict surveillance by a government to whom they are objects of perpetual jealousy. Captain Hall considers them, notwithstanding the deadly error which caused their ruin, as not undeserving of sympathy. They are better informed, more industrious, and more highly bred than the natives, and in all respects, except on the national question, more liberal. As merchants they were active, enterprising, and honourable; and towards strangers courteous and obliging. It could never, certainly, be expected, that they should not resist to the utmost a revolution which deprived them of their station in society, and reduced them to a depressed and subordinate condition.

The Creoles, or Americans, as they prefer to call themselves, even when they were depressed beneath the preponderance of the Europeans, formed a privileged class in comparison with other natives. They are fond of splendour, and delight to ride on horses richly caparisoned (*fig*. 1038.). Many of them, descended from the first conquerors, or enriched by speculation in the mines, enjoy fortunes almost more than princely. Forty or fifty thousand pounds a year is not an uncommon income, even for families who do not possess mines. The Conde de la Valenciana has repeatedly drawn from his mine 1,200,000 dollars in one year. The Conde de la Regla, from the profits of another, presented to the king two ships of the line constructed of cedar. These immense fortunes, however, are often dissipated in ulterior mining speculations, to which the owners are tempted by one successful adventure, and in which they often squander all that they have gained. An ostentatious mode of living, a rage for gaming, and an ill-arranged domestic economy, are also causes which involve the richest families in embarrassment, and prevent any accumulation of capital. The entire number of those denominated whites in Mexico, is about 1,500,000, of whom all except the small number of Europeans above mentioned are Creoles. Very few of these, however, are free from a mixture of Indian blood. The charge of ignorance is generally advanced against this class; and, notwithstanding some decided exceptions, and a peculiar aptitude, which most of them are said to display in learning the principles of science, cannot be wholly denied. The causes, however, which have produced this mental degradation, are now at an end; and though beneficial changes are not to be effected by magic, there can be no doubt that the permanent advantage of a free government will enable the Mexicans to take the station for which nature has destined them.

1038



Mexican Gentlemen.

The Indians (*figs*. 1039. and 1040.), descendants of the original possessors of Mexico, still survive, to the supposed amount of nearly 4,000,000, and are, consequently, nearly three times as numerous as the white race. They bear the general features of those aborigines who have been found in all parts of North and South America. They have the same swarthy or copper colour, the flat and smooth hair, small beard, squat body, long eye, with the corner curving up towards the temples, prominent cheek-bones, thick lips, and an expression of gentleness in the mouth, strongly contrasted with a gloomy and severe look. Their hair is coarse, but smooth, and so glossy as to appear in a constant state of humidity. They share with the rest of their countrymen, and with most races of very swarthy complexion, an exemption from almost every species of deformity. Humboldt never saw a hunch-backed Indian, and squinting and lameness are very rare. They escape the goître, even in districts where it is prevalent. None of the causes which have been assigned for this exemption in nomadic nations can apply to a laborious agricultural race like the Mexican Indians; and therefore this immunity must depend on something peculiar in their structure. It has been supposed that few attain an advanced age; but this is owing to the circumstance that, whatever age a Mexican may attain, he never becomes gray-haired. He leads a very different life, and is exposed to none of the casualties incident to a hunter and a warrior on the banks of the Mississippi. A peaceable cultivator, subsisting constantly on vegetable food, attains often a hundred years of age, and is still green and vigorous. The only circumstance which tends to abridge life is an extravagant use of the inebriating liquor called pulque, especially

1039

Mexican Indians.

1040

Mexican Indians.

on occasion of coming to market. The police of Mexico sends round tumbrils to collect the drunkards, like so many dead bodies, after which they are punished by being obliged to work chained in the streets for several days. The Spanish government adopted a singular policy in regard to the Indians, confining them in villages of their own, into which no white was allowed to enter; nor were they admitted into any place inhabited by whites. Although the Aztec nobles mostly perished in the ruin of their country, yet some still remain, who lay claim to the highest rank among that body, and to whom their countrymen pay profound respect, clearly denoting the importance of their ancestry. They are usually invested with the government of the villages, and are accused of exercising their power in an oppressive manner, with little regard to the ties which unite them to their countrymen. The Indians pay a tribute, or capitation tax, varying at different times and places from one to five dollars; an impost which, from its nature, must be degrading, though we cannot think, with the bishop of Mechoacan, that it would be any improvement to substitute the alcavala. A few of them have amassed considerable wealth, amounting even to 150,000 or 200,000 dollars; but in general they labour under severe poverty. They appear to be gifted with a clear apprehension, a natural logic, and a capacity of cool and even subtle reasoning, but to be destitute of any warmth of imagination or glow of sentiment. Yet the love of flowers, for which they have been remarkable since the time of Cortes, seems to indicate a taste for the beautiful. In the public market of the capital, the Mexican surrounds himself with an entrenchment of verdure, and the ground around him is embellished with festoons of flowers, which are daily renewed. They evince also a great attachment to the arts of painting and carving, and imitate with great facility any models which are presented to them. A peculiar apathy marks the deportment of the Mexican Indian. He is grave, gloomy, and silent; he loves to throw a mysterious air over the most indifferent actions, but is often seen to pass at once from a state of seemingly profound repose, to one of violent and unrestrained agitation. Their want of present instruction is ascribed to the extinction of the Aztec priesthood and all their monuments, for which nothing was substituted by the Spanish ecclesiastics.

The mixed castes form a very numerous part of the population of Mexico, being estimated at about 2,500,000. They are either mulattoes, descended from mixture of the white with the negro; Zambos, from the negro and Indian; or mestizoes, from mixture of the white with the Indian. The latter, in consequence of the happily small number of negroes introduced into Mexico, compose seven-eighths of its mixed population. To be white was formerly in Mexico a badge of rank, and almost a title of nobility. When a Mexican considered himself slighted by another, he would ask, "Am I not as white as yourself?" From a refinement of vanity, the inhabitants of the colonies enriched their language with terms for the finest shades, which result from the degeneration of the primitive colour. The union of a mestizo, or mulatto, with a white, produces what is called a quarteron; and the union of a quarteron with a white produces a quinteron; after which, the next generation is accounted white. It is said that the Indians can distinguish, even in the dark, the different races, by the odour peculiar to their cutaneous transpiration. Individuals often came before courts of law to clear themselves from the charge of impure mixtures; and, when possessed of influence, obtained verdicts which were not always conformable to the evidence of the senses. When the case was very palpable, however, the law contented itself with declaring, "that they should be held as white;" a concession to which considerable value seemed to be attached. But since the political distinctions founded on colour, have been abolished by the revolution, little importance is attributed to difference of complexion.

The Catholic religion was introduced into Mexico at the time of the conquest, with a body of clergy, both secular and regular, who do not possess the exorbitant wealth which has been ascribed to them. The archbishop of Mexico, and the eight bishops under him, have not among them more than 600,000 dollars a year. Neither is the number of clergy greater than corresponds to the extent and population of the country. They do not exceed 10,000; or, including every person connected with the church, 13,000 or 14,000. A number of the lower clergy, especially in the Indian villages, are excessively poor, their income not exceeding 100 dollars a year. The influence and revenue of the church also have considerably diminished during the revolution. In 1827, according to Mr. Ward, seven bishoprics and seventy-nine cathedral benefices were vacant; in 156 colleges and convents of Mexico, only 280 individuals had taken the vows during five years; and only 92 were serving in noviciate. The alms collected in all the convents of Mexico amounted, in 1826, to only 204,000 dollars. The churches, however, in Mexico, Puebla, and other large cities, are of surpassing splendour; and the blaze of gold, silver, and ornaments, surpasses what is displayed in the richest shrines of Europe. Bigotry, among the body of the people, prevails nearly to the same extent as in Spain; and the new legislators have not attempted to grant toleration to any other religion than the Roman Catholic; yet many of the best informed are supposed to be secretly tinctured even with the sceptical opinions of the modern French school. The constituent decree of 1835 declares that the Mexican nation, one, sovereign, and independent, has not, and does not profess, or protect any other religion than the Catholic, Apostolic, and Roman religion, nor is the exercise of any other tolerated. The Indians have been what the Spaniards call converted to the Christian faith; but the change has evidently been not a change of creed, but a commutation of one ceremony for another, and in some cases their ancient ceremonies are retained. Humboldt seems to suppose that they merely considered the Spanish gods to have vanquished their gods, and thence to have become entitled to their homage. They even persuaded themselves, and, it is said, were assured by the Spaniards, that the emblem of the third person of the Trinity was identical with the sacred Mexican eagle. Be this as it may, the Mexicans display an extraordinary ardour in adorning the churches with pictures and statues, and in collecting and grouping flowers, fruits, and every thing which can increase the splendour of religious festivals. But their favourite form of worship is dancing round the altar, and with astonishment it is perceived, that these dances are the same with which their ancestors celebrated the immolation of human victims to the dreadful god of war. The warrior departs, attired in the full costume of the days of Montezuma; he meets another; fights, vanquishes, and drags him by the hair before the emperor. The spectator almost expects to see the blood begin to flow. When Mr. Bullock was modelling the great Mexican idol, the natives gazed intently, and some of them were heard to observe, that, after the cordial manner in which they had adopted the Spanish gods, they might have been allowed to retain a few of their own.

The sciences have not yet shone very bright in this part of the western hemisphere. Few governments, however, have expended more in the promotion of physical science than that of Spain in America. It sent three botanical expeditions into Mexico and other parts of its transatlantic territory, which cost 400,000 dollars. Geometry and astronomy have made considerable progress in Mexico. Humboldt names three individuals, Velasquez, Gama, and Alzate, who might have held a respectable rank in Europe. A botanical garden and collections of minerals were formed in Mexico on a great scale. The school of mines produced great advantages to the country, and the pupils were initiated even in the highest branches of mathematics. These lights, according to the most recent accounts, had suffered a temporary eclipse, in consequence of the long revolution; but the new government has endeavoured to revive them.

The fine arts were also promoted with great zeal by the old government, which, at an expense of 40,000 dollars, transported to Mexico, across the rocky passes of the Cordilleras, a collection of casts of the finest antique statues. The Academy of the Fine Arts possessed an income of 25,000 dollars a year, chiefly supplied by government; and the benefit of its exertions was seen in the beauty of the public edifices which adorned the capital.

The amusements are chiefly those of Old Spain; bull-fights, and religious processions. The theatre is still far inferior to that of the mother-country. The dress of the ladies is usually black; but on holidays they wear very showy and brilliant stuffs, without much regard to the richness of the material. The attire of the gentlemen, especially on horseback, is exceedingly splendid; embroidered breeches of coloured leather, adorned with silver buttons and silver lace; over their short calico jacket is thrown a rich velvet cloak, often embroidered with gold. The houses of the wealthy exhibit similar splendour. They are usually three stories high, and the fronts painted white, crimson, or light green; sometimes covered with glazed porcelain. The finest apartments are lofty and spacious, situated on the first floor, which is ascended by a magnificent staircase. The house is built round an interior court, filled with trees and flowers. The roof is flat, and is made strong, to resist rain; it is adorned with plants and flowers, which in fine weather make it an agreeable resort.

SECT. VII.—*Local Geography.*

Previous to the new administration introduced by Galvez, the minister of the Indies, this country was divided into the following provinces, which are still regarded by the inhabitants. 1. The kingdom of Mexico, comprising the southern part, or all the richest and most populous and valuable portion of the colony. 2. The kingdom of New Galicia, comprising the late states of Xalisco and Zacatecas; a somewhat ruder tract, but containing some important cities and havens. 3. The new kingdom of Leon. 4. The colony of New Santander. 5. The province of Coahuila, and 6. the province of Texas, on the north-east. 7. The province of Sonora; and 8. that of Old and New California, on the north-west. 9. The province of New Biscay; and 10. that of New Mexico, in the northern interior.

In 1776, the viceroyalty of New Spain, as it was then styled, was divided into twelve intendencies, and three provinces; and as this division coincided with the natural features of the country, and served as the basis of the new division into states, it is given below. The territory of the republic, consisting of the old viceroyalty of New Spain, of the captaincy-general of Yucatan, and of the commandancy-general of the Internal Provinces, was divided by the constitution of 1824 into nineteen States, four Territories, and the Federal District: this arrangement was subverted by the decree of 1835 already mentioned, which provided for a new division of the country into departments.

Intendencies.	States.	Area, Sq. Miles.	Population.	Capital.
Vera Cruz	Tabasco	14,676	75,000	Tabasco (V. Hermosa).
	Vera Cruz	27,660	150,000	Xalapa.
Oaxaca	Oaxaca	32,650	660,000	Oaxaca.
La Puebla	La Puebla	18,440	900,000	La Puebla.
Mexico	Mexico	35,450	1,500,000	Tlalpan.
	Queretaro	7,500	100,000	Queretaro.
	Federal District	....	200,000	Mexico.
Valladolid	Mechoacan	22,466	400,000	Valladolid.
Guadalaxara	Xalisco	70,000	870,000	Guadalaxara.
Guanaxuato	Guanaxuato	8,000	500,000	Guanaxuato.
Zacatecas	Zacatecas	19,850	200,000	Zacatecas.
Durango, or New Biscay	Durango	54,500	150,000	Durango.
	Chihuahua	107,500	130,000	Chihuahua.
San Luis Potosi	San Luis Potosi	19,000	300,000	San Luis Potosi.
	Tamaulipas	35,100	150,000	Aguayo.
	New Leon	21,000	100,000	Monterey.
	Coahuila and Texas	193,000	90,000	Monclova.
Sonora	Occidente	254,700	300,000	Villa del Fuerte.
Honduras	Yucatan	79,500	570,000	Merida.
	Chiapas (to Guatemala)	18,750	92,000	Ciudad Real.
Territory of New Mexico		200,000	60,000	Santa Fe.
———— Californias		425,000	50,000	Monterey.
———— Colima		....	10,000	Colima.
———— Tlascala		....	10,000	Tlascala.

The state of Mexico comprises the Valley of Mexico, a fine and splendid region, variegated by extensive lakes, and surrounded by some of the loftiest volcanic peaks of the new world. Its circumference is about 200 miles, and it forms the very centre of the great table-land of Anahuac, elevated from 6000 to 8000 feet above the level of the sea. In the centre of this valley stands the city of Mexico (*fig.* 1041.); the ancient Mexico, or Tenochtitlan, having been built in the middle of a lake, and connected with the continent by extensive causeways or dykes. The new Mexico is three miles from the lake of Tezcuco, and nearly six from that of Chalco; yet Humboldt considers it certain, from the remains of the ancient *teocalli*, or temples, that it occupies the identical position of the former city, and that a great part of the waters of the valley have been dried up. Mexico was long considered the largest city of America; but it is now surpassed by New York, perhaps even by Rio Janeiro. Some estimates have raised its population to 200,000; but it may, on good grounds, be fixed at from 120,000 to 140,000. It is beyond dispute the most splendid. "Mexico is undoubtedly one of the finest cities built by Europeans in either hemisphere; with the exception of St. Petersburg, Berlin, and Philadelphia, and some quarters of Westminster, there does not exist a city of the same extent which can be compared to the capital of New Spain, for the uniform level of the ground on which it stands, for the regularity and breadth of the streets, and the extent of the squares and public places. The architecture is generally of a very pure style, and there are even edifices of a very beautiful structure." The palace of the late viceroys, the cathedral, built in what is termed the Gothic style, several of the convents, and some private palaces, reared upon plans furnished by the pupils of the Academy of the Fine Arts, are of great extent and magnificence; yet, upon the whole, it is rather the arrangement, regularity, and general effect of the city, which render it so striking. Nothing, in particular, can be more enchanting than the view of the city and valley from the surrounding heights. The eye sweeps over a vast extent of cultivated fields, to the very base of the colossal mountains, covered with perpetual snow. The city appears as if washed by the waters of the Lake of Tezcuco, which, surrounded by villages and hamlets, resembles the most beautiful of the Swiss lakes, and the rich cultivation of the vicinity forms a striking contrast with the naked mountains. Among these rise the famous volcano Popocatepetl and the mountain of Iztaccihuatl, of which the first, an enormous cone, burns occasionally, throwing up smoke and ashes, in the midst of eternal snows. The police of the city is excellent; most of the streets are handsomely paved, lighted, and cleansed. The annual consumption in Mexico has been computed at 16,300 beeves; 279,000 sheep; 50,000 hogs; 1,600,000 fowls, including ducks and turkeys; 205,000 pigeons and partridges. The markets are remarkably well supplied with animal and vegetable productions, brought by

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Mexico.

crowds of canoes along the Lake of Chalco, and the canal leading to it. These canoes are often guided by females, who at the same time are weaving cotton in their simple portable looms, or plucking fowls, and throwing the feathers into the water. Most of the flowers and roots have been raised in *chinampas*, or floating gardens, an invention peculiar to the new world. They consist of rafts formed of reeds, roots, and bushes, and covered with black saline mould, which, being irrigated by the water of the lake, becomes exceedingly fertile. It is a great disadvantage to Mexico, however, that it stands nearly on a level with the surrounding lake; which, in seasons of heavy rains, overwhelm it with destructive inundations. The construction of a *desague*, or canal, to carry off the waters of the Lake of Zumpango, and of the principal river by which it is fed, has, since 1629, prevented any very desolating flood. The desague, though not conducted with skill and judgment, cost 5,000,000 dollars, and is one of the most stupendous hydraulic works ever executed. Were it filled with water, the largest vessels of war might pass by it through the range of mountains which bound the plain of Mexico. The alarms, however, have been frequent, and cannot well cease, while the level of that lake is twenty feet above that of the great square of Mexico.

Acapulco, on the west coast, has been celebrated in an extraordinary degree as almost the centre of the wealth of America; the port whence the rich Spanish galleons took their departure to spread the wealth of the western over the eastern hemisphere. It is one of the most magnificent harbours in the world, seeming as if it were excavated by art out of a vast circuit of granite rocks, which shut out all view of the sea. To Captain Hall and his companions, it appeared the very beau ideal of a sea-port. Yet while Vera Cruz, with its wretched anchorage amid sand-banks, annually received from 400 to 500 vessels, that of Acapulco scarcely received ten, even in the time of the Manilla galleon, the discontinuance of which reduced it to a state of insignificance. It is said, however, of late to have considerably revived, and its customs, after falling so low as 10,000 dollars, had risen, in 1826, to 400,000. According to Captain Hall, the town consists of not more than 30 houses, with a large suburb of huts, built of reeds wattled in open basket-work to give admission to the air. It is guarded by an extensive and formidable fortress, commanding the whole harbour.

Other places of great interest exist in the valley and state of Mexico. Tezcuco is now only a mass of ruins, but these are peculiarly grand. The foundations and remains of temples, fortresses, palaces, and other extensive buildings, attest a period when it must have been one of the greatest cities of America, capital of the kingdom of Acolhuacan; still later it was the seat of literature and art, the Athens of America. The palace of the former tributary king could not be viewed without forming an elevated idea of the ancient Mexican architecture. It must have covered several acres, is raised on several sloping terraces, and of materials at once durable and beautiful. All round Tezcuco are seen raised mounds of brick, mixed with aqueducts, ruins of buildings of enormous strength, and many large square structures nearly entire. Here the blind zeal of the first bishop collected and committed to the flames all the monuments of Aztec history and literature. Near Otumba, once large and flourishing, but now little more than a village, are the pyramids of Teotihuacan, the two principal of which appear to be temples dedicated to the sun and moon: the highest of them has been recently estimated by Mr. Glennie at 221 feet. A flight of steps leads to the top, where an altar appears anciently to have been placed. It is surrounded by numerous pyramids, about 30 feet high, arranged in broad and regular streets, all terminating in the great pyramid (*fig.* 1042.). Zimapan, Real del Monte, and Tasco are noted for their rich silver mines. Tlalpan, having become the capital of the state of Mexico, suddenly rose from a petty village to a considerable town, with 6000 inhabitants. It has a mint, and is the favourite resort of the wealthy Mexicans. Cuernavaca, a place of some importance, is particularly interesting from its presenting the curious monument called the fort of Xochicalco, a hill about 400 feet in height, artificially cut into terraces, and faced with masonry. The stones are covered with hieroglyphical figures.

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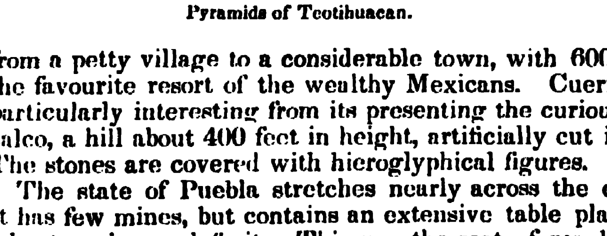

Pyramids of Teotihuacan.

The state of Puebla stretches nearly across the continent, and over the high table-land. It has few mines, but contains an extensive table plain, 6000 feet high, eminently fertile in wheat, maize, and fruit. This was the seat of republican Mexico. Tlascala, Cholula, and Huexotzingo, republics which bade defiance to the power of Montezuma, are included within its limits. It contains also Popocatepetl, the loftiest mountain in Mexico, exceeding by 2000 feet the highest in Europe. The volcano has for several centuries thrown up only smoke and ashes.

Puebla de los Angeles (*fig.* 1043.) is a handsome and large city. It is entirely Spanish, having been founded since the conquest. The streets are straight, broad, and cross each

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Puebla de los Angeles.

other at right angles, dividing the whole into spacious squares. They are well paved, and have broad foot-paths. The houses are large and lofty, the walls often covered with paintings, while the roof is ornamented with glazed tiles. In the splendour of the churches and the richness of their endowments, Puebla, according to Mr. Bullock, must take the first rank in the Christian world. The cathedral is a vast pile, with little external ornament: but the interior is rich beyond description. The high altar is composed of the most beautiful marble and precious stones: its numerous and lofty columns, with plinths and capitals of burnished gold, its statues and other ornaments, have an unequalled effect. In manufactures it takes the lead of other Mexican cities: those of woollen have declined, but those of earthenware and glass are still flourishing. Humboldt reckons the population at 67,800; Bullock, thirty years later, at 90,000.

Cholula the ancient capital of a great independent republic, has declined into a town, containing, according to Humboldt, 16,000, according to Bullock, 6000, souls. The pyramid of Cholula (*fig.* 1044.) is the work of art which, next to the pyramids of Egypt, approaches nearest in magnitude and vastness to those of nature. It is not nearly so high as the Great Pyramid, being only 172 feet; but the length is nearly double; 1335 feet, instead of 728. It is four times as long as the third pyramid, or that of Mycerinus, and somewhat higher. A section having been made through it to form the road to Mexico, it was found to be composed of brick, and displayed an interior chamber, built of stone, and containing two skeletons, some idols of basalt, and a number of vases curiously varnished and painted. On the platform at the top has been erected a chapel, where mass is daily celebrated, and whence a noble view is obtained over the fine plain of Mexico and its boundary mountains.

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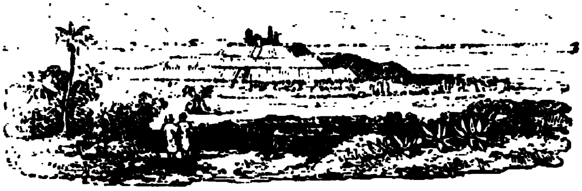

Pyramid of Cholula.

Tlascala, once the powerful rival of Mexico, is now a miserable village, with no traces of its former splendour but the ruins of its great temple and its vast walls. At the time of the Spanish conquest, it was the capital of an independent republic, and its markets were thronged with the population of its fertile and populous territory. Having joined the Spaniards in the capture of Mexico, Tlascala continued to be governed by its own caciques, merely paying an annual tribute to Spain, and on the adoption of the constitution of 1824, it was made a separate territory, though within the territorial limits of La Puebla.

Vera Cruz occupies a great length of sea-coast on the Gulf, but it is comparatively narrow. It extends inland from the level of the Gulf of Mexico to that of the great central table-land. In a day's journey the inhabitants may ascend from regions of the most suffocating heat to those of eternal snow; and, according to Humboldt, naturalists in this wonderful country may traverse, even in a few hours, the whole range of the vegetable kingdom. The aspect of the oak first relieves the traveller, by showing him that he is beyond the dreaded dominion of the yellow fever; and soon after he is cheered by the view of fields of wheat. Pines then begin to mingle with the oaks, and at a little higher elevation, these and other resinous plants alone cover the rocks, whose summits penetrate into the regions of eternal snow. This state is capable of yielding in abundance the most precious productions; and within a recent period, sugar, tobacco, and cotton, all of excellent quality, have been raised to a much greater extent: but the horror with which the climate is viewed both by Europeans and Indians is such, that the greater part of it remains a complete desert, where often, for many leagues, there are only to be seen two or three huts, with herds of cattle, half wild, straying round them.

Vera Cruz (*fig.* 1045.), in which centres almost all the trade of Mexico, is well and handsomely built of the submarine material called madrepore, which is also made into lime; and its red and white cupolas, towers, and battlements have a splendid effect when seen from the water. The streets also are kept extremely neat and clean; yet Mr. Bullock considers it the most disagreeable of all places of residence. This arises not merely from the pestilence which taints the air; the surrounding country is covered

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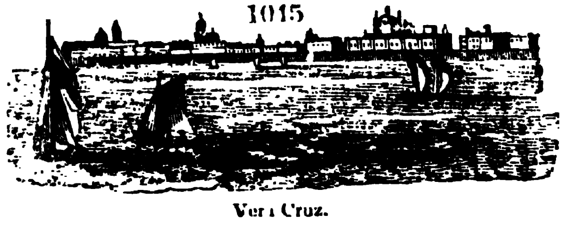

Vera Cruz.

with sand blown into hillocks, which, reflecting the rays of the sun, render the heat more oppressive. There is not a garden or a mill now within many miles of it; and the only water which can be drunk is that which falls from the clouds. The markets are bad for every article except fish, of which many beautiful species are here caught. The place appears to have sensibly declined since the dissolution of the ties which connected Mexico with the mother country. Humboldt reckons a population of 16,000; but Bullock, though he admits it might hold even more, does not estimate the actual number at more than 7000. The castle of San Juan de Ulloa, the last hold of Spain in the New World, and which commands the entrance of the port, is of immense strength, though it seems impossible to believe that 40,000,000 dollars could have been expended upon the structure.

The fine calzàda or paved road, from Vera Cruz into the interior, runs up to the handsome town of Xalapa or Jalapa, the capital of the state. The Puente del Rey or Royal Bridge, between the two cities, is a stupendous work of solid masonry thrown over a wild and steep ravine. Xalapa is commodiously situated in a delightful district, about 4000 feet above the sea. It has 12,000 inhabitants, and was formerly the residence of the rich Spanish merchants of Vera Cruz during the sickly season. The neighbourhood is finely wooded, and is particularly remarkable for the medical article jalap, which takes its name from the city. Further up on this road is the neat little town of Perote, near which is the stupendous mountain, called from the large rock on its summit resembling a chest, the Coffre de Perote. Near a more southern route from Vera Cruz to the valley of Mexico, which passes through the valuable tobacco plantations of Orizava and Cordova, is the colossal volcano of Orizava.

On the coast, to the south, are the ports of Alvarado and Huasacualco, the former of which became the principal entrepôt on the Gulf, during the occupation of San Juan de Ulloa by the Spanish forces; and the latter derives some interest from its situation at the termination of the proposed canal, from the Gulf of Mexico to that of Tehuantepec. In the north are Papantla, an Indian village, containing an ancient pyramid constructed of very skilfully hewn blocks of porphyry, adorned with hieroglyphics; and old Tampico, on the borders of a large shallow lagoon, the inhabitants of which carry on a lucrative shrimp-fishery.

The little state of Queretaro, detached from the intendency of Mexico, lies to the west of Vera Cruz. It is wholly on the central table-land, and contains some rich mines of silver, but the inhabitants are chiefly employed in agriculture. Queretaro, the capital, is one of the most beautiful and delightfully situated, as well as one of the most industrious and wealthy cities of Mexico. The streets all cross each other at right angles, and terminate in its three principal squares. Its aqueduct, about ten miles in length, with its bold and lofty arches, and its splendid churches and convents, give the city an air of magnificence. The convent of Santa Clara is more than two miles in circuit. Population 40,000. San Juan del Rio is remarkable for its great fair, and for its famous sanctuary, a magnificent temple, visited by great numbers of pilgrims.

Mechoacan, or Valladolid, is an extensive state, situated to the north and west of that of Mexico, on the summit and western declivity of the table-land. It includes the ancient kingdom of Mechoacan, as it is still called in the country, which was independent of Montezuma, and of which the capital, Tzintzontzan, still exists, though reduced to little more than a village. The natives are to this day remarkable for their industry and skill, particularly in cutting out figures in wood, which they dress in clothes made of pith, very skilfully dyed, and in executing beautiful works with feathers, forming a sort of feather-mosaic. Mechoacan, unless in the unhealthy tract along the coast, enjoys a fine and temperate climate, is intersected with hills and charming valleys, and presents the appearance, unusual in the torrid zone, of extensive and well-watered meadows. This territory has been marked by some phenomena of the most striking nature. On the 29th of September, 1759, from the centre of a thousand small burning cones, was thrown up the volcano of Jorullo (*fig.* 1046.), a mountain of scoriæ and ashes, 1700 feet high. In an extensive plain, covered with the most beautiful vegetation, deep subterraneous noises, accompanied by frequent earthquakes, continued for the space of fifty or sixty days. On the night of the 28th of September, the sounds recommenced with such fury, that all the inhabitants fled from the district. A large tract of ground was seen to rise up and swell like an inflated bladder, and spectators reported that, throughout this space, flames were seen to issue forth, and fragments of burning rocks were thrown up to prodigious heights; and that, through a thick cloud of ashes illumined by the volcanic fire, the softened surface of the earth appeared to heave like an agitated sea. The plain is still co-

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Volcano at Jorullo.

vered with numerous small cones, sending forth from their crevices a vapour, the heat of which often rises to 95°. From among these rise six large hills, of which the highest is Jorullo, still burning, and throwing up immense quantities of scorified and basaltic lava. The only large town in the state is Valladolid, with 25,000 inhabitants, delightfully situated, 6300 feet above the sea, where snow sometimes falls. There are several mines, but none of first-rate magnitude. It has wide, clean streets, a magnificent cathedral, and a handsome plaza.

Guanaxuato, also part of the ancient Mechoacan, is one of the smallest but most populous of all the states. It owes its fame to the great mine of Valenciana, discovered late in the last century, round which rose one of the most splendid cities in the New World. Between 1766 and 1803, this mine yielded silver to the amount of 165,000,000 dollars. Since that time it has suffered a severe deterioration from the effects of the revolutionary contest, and has declined also in consequence of the greater depth of the workings, and the increased difficulty of clearing off the water.

This state also contains the celebrated Baxio, a rich plain, highly cultivated, and producing in perfection all the fruits of Europe and many of those of tropical countries. The Baxio became the theatre of many of those horrible events that deluged Mexico in blood during the revolutionary struggle. The capital, situated in the midst of the rich mining district, is built on very uneven ground, and the streets are often very steep; but the buildings are in general handsome, and some of the churches are very fine; the alhondiga, or public granary, an immense quadrangular edifice, is a remarkable object. The population of the city and neighborhood has been reduced from 90,000 to about two-thirds of that number. The Baxio contains a number of considerable towns at the distance of from 20 to 30 miles from each other, whence this region has received the name of las Villas. These are Zelaya, with the magnificent convent of El Carmen; Salamanca; Irapuato; Allende, or San Miguel; Silao; and Leon, in all of which are considerable manufactures of cotton and woollen. Leon has also manufactures of leather, and its cutlery is much esteemed. In the northern part of the state is the village of El Jaral, belonging to the marquess of Jaral, probably the greatest landholder in the state; his live-stock amounts to 3,000,000 head; 30,000 sheep are sent annually to the Mexican market, and as many goats are killed on this regal estate, which covers an area of 50,000 square miles.

Xalisco, or Guadalaxara, is an extensive state, which has the important advantage of being traversed throughout its extent by the river of Santiago, the largest in the southern part of Mexico. It appears that within the last thirty years very important advantage has been taken of this circumstance; that industry has made rapid progress, and an active commercial spirit prevails. The capital, Guadalaxara, which, in 1798, was estimated to contain 19,500 inhabitants, has at present 60,000. It is regularly laid out, with wide, straight streets, and contains many handsome churches and convents, 14 plazas or squares, 12 fountains supplied by a fine aqueduct, a pretty alameda, &c.; the portales, or colonnades, in which are the shops, are said to be superior to those of Mexico. The silver mines of Bolaños in this state rank among the richest in Mexico. San Blas, at the mouth of the river, is a mere roadstead; the holding ground is bad, and the road is much exposed to westerly winds. It is perched on the top of a cliff, near the mouth of the river, and during a certain season of the year, it is extremely unhealthy, though not in so deadly a degree as Vera Cruz; and at that time the rain falls in such torrents that no roof can exclude it, and it is impossible without danger to go out into the streets. At the commencement of this season, therefore, a general migration takes place; and the population is reduced in a few days from 3000 to 150, at which it remains stationary until the return of the dry season.

Tepic, eighteen leagues from San Blas, is a beautiful town, in the midst of a cultivated plain, and its streets, regularly laid out, are enlivened by rows of trees, gardens, and terraces. Thither the people of San Blas remove during the sickly season, at which time the population of Tepic amounts to 8000 or 10,000. Lagos, in the western part of the state, is famous for its annual fair, and for its church of Our Lady, which would be considered a fine building in any part of the world. Its population amounts to about 15,000 souls.

To the south of Xalisco, is the Territory of Colima, consisting of the city of that name and a small neighbouring tract. The mountain of Colima in this Territory, 9000 feet high, throws out smoke and ashes, and forms the western extremity of the volcanic chain which traverses Mexico from east to west.

Zacatecas, north and east of Guadalaxara, in the inland centre of Mexico, is an arid rocky plain, strongly impregnated with carbonate of soda, and suffering under the inclemency of the climate. It derives its wealth and distinction solely from mines, of which the most important in Mexico, next to that of Guanaxuato, are here situated. The mine of Pavellon, in Sombrerete, has already been mentioned as having yielded in a given time a greater produce than any other mine known to exist. Zacatecas, the capital, is reckoned by Humboldt to contain 33,000 inhabitants. The mint, which is the second in point of importance in Mexico, employs 300 persons, and 60,000 dollars have been coined here in twenty-four hours. The total coinage in five years, from 1821 to 1826, was upwards of 17,500,000 dollars. Aguas Calientes, which derives its name from its warm springs, is a pretty town, in a fertile district, and with a delightful climate. The inhabitants, about 20,000 in number, carry on some manufactures. Fresnillo, Sombrerete, and Pinos, are mining towns with from 12,000 to 16,000 inhabitants. The lower orders here are extremely brutal and ignorant, and Mr. Ward and his party were in danger of being mobbed for Jews.

Oaxaca, for we must return southwards in order to complete the picture of the central provinces of Mexico, is a fine state, situated near the borders of Guatemala. The beauty and salubrity of the climate, the fertility of the soil, and the richness and variety of its productions, render it one of the most delightful countries in the world. These advantages were appreciated at an early period, when it became the seat of an advanced civilisation; and two ancient kingdoms, Misteca and Zapoteca, were established. Their ancient greatness is attested by monuments, not of such astonishing magnitude as those of the Aztec empire, but superior in elegance and skill. The palace, or rather the royal tombs, of Mitla (*fig.* 1047.), are decorated with ornaments similar to those which are admired in the Etruscan vases. Paintings also, representing warlike trophies and sacrifices, have been found in the ruins. Oaxaca has no mines of any importance, and has, therefore, attracted less attention than the more northern parts of the table-land, though in every other respect inferior to it. Oaxaca, the capital, called Antequera at the time of the conquest, is a flourishing place; in 1792, it had 24,000 inhabitants, and although it suffered severely during the revolution, its present population is about 40,000. Tehuantepec, its only port, is not a good one; but it is of considerable value as a channel by which the indigo of Guatemala is conveyed to Europe.

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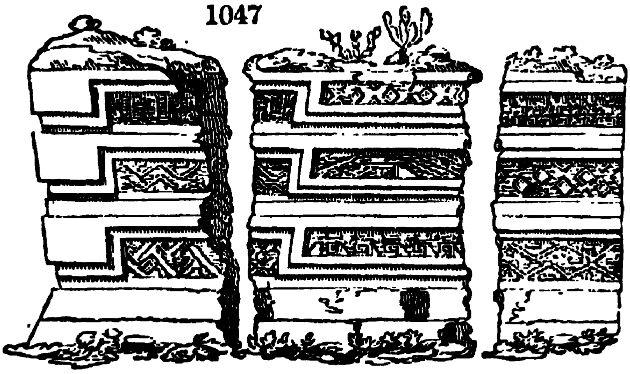

The Royal Tombs of Mitla.

The state of Yucatan, comprising the peninsula of that name, forms the eastern extremity of Mexico. It is a vast plain, only intersected by a chain of mountains, which do not rise above 4000 feet. It is thus excessively hot; yet, from its extreme dryness, it is by no means so unhealthy as most of the low lands under this burning zone. The heat is too great for the ripening of European grain, and the only articles which it yields for subsistence are maize and roots. This was the first part of Mexico in which the Spaniards landed, and, though it be less improved than the interior, they found, to their surprise, indications that civilisation was in a more advanced state here than in the islands: stone houses, pyramidal temples, enclosed fields, and a clothed and civilised people. Having no mines, however, it owes its commercial importance solely to its valuable products, logwood and mahogany. Merida, the capital, is a small town. Campeachy, also a small town, is however a fortified place, and is important on account of its harbour, from which is shipped the logwood cut in the vicinity. On the other side of the peninsula the British possess the settlement of Honduras, extending along the shore from the Rio Honda to the Libun. The population consists of about 4000 persons, of whom about 300 are whites, and the rest Indians, negroes, and mixed breeds. Balize, the capital of the settlement, is a well-built town on both sides of the river of the same name. The colony was founded for the purpose of cutting logwood and mahogany, and its exports in 1830 were of the value of 1,500,000 dollars.

Chiapa formed the most northerly district of Guatemala; but the greater part of it, on a late occasion, separated itself from Guatemala, and united with Mexico. The soil is fertile, and capable of yielding in profusion tropical fruits and grain. Though low, yet it is free from damp, and not unhealthy. It seems difficult, therefore, to understand how this country, which the Spaniards found populous and flourishing, should have since been converted almost into a desert. Although the cacao of Soconusco and its neighbouring district of Suchiltepec be accounted the best in the world, that favourite Spanish beverage is not raised in quantity sufficient to become of commercial importance. Chiapa of the Spaniards, called also Ciudad Real, though ranking as the capital, is now only a small place of 4000 inhabitants. Chiapa of the Indians is larger, and carries on a considerable trade. There are several other large villages, chiefly Indian. Near Palenque, the most northern of these, Don Antonio del Rio traced, in 1787, the remains of the great ancient city of Culhuacan. Fourteen large buildings, called by the natives the Stone Houses, remain nearly entire; and for three or four leagues either way the fragments of the other fallen buildings are seen extending along the mountain. They are of a rude and massive construction, well calculated for durability; and the principal apartments are adorned with numerous figures in relief, representing human beings of strange form, and variously habited and adorned.

The little state of Tabasco, to the north of Chiapas, is chiefly covered with vast forests, which contain valuable dye-woods; the cultivated lands yield cacao, tobacco, pepper, coffee, and indigo, but during the rainy season a large portion of the state is under water, and the only method of communication is by canoes. It contains no large towns. The capital is the little town of Hermosa, or Tabasco; Vittoria, or Tabasco, at the mouth of the river Tabasco, is remarkable as the spot upon which Cortez landed in his memorable expedition to Mexico.

Having completed our survey of the southern states of the republic, we may return to the north. The whole of the northeastern part of New Spain was occupied by the extensive intendency of San Luis Potosi, which comprised the provinces of San Luis, New Santander, New Leon, Coahuila, and Texas; the four last-named forming what were termed the Internal Provinces of the East. Only a small portion of this vast tract lying on its western border, is mountainous, the greater part being low and level, and containing extensive prairies. The coast is deficient in harbours, and is lined with long, low, narrow islands of sand, forming a succession of shallow lagoons. The mouths of the rivers are also blocked up by sandbars. This intendency is now divided into four states.

The state of Tamaulipas, consisting of the former colony of New Santander, occupies the whole coast from the river Panuco, or Tampico, to the Nueces. It is difficult of access, as it contains few harbours, and a continual surf breaks along the whole shore, which, during the prevalence of the Northers from November to March, is tremendously increased. The del Norte traverses the northern part of the state, and the Panuco, or Tampico, the southern. The latter abounds in shrimps, which are boiled in salt and water, dried and packed in small bales, and sent to all parts of the country. Tampico de las Tamaulipas, or New Tampico, near the mouth of the river, was founded in 1824, and has rapidly increased on account of its commercial advantages, which have attracted thither the inhabitants of Altamira, once a place of some importance. Tampico has now about 5000 inhabitants, but it suffers under a want of good water. The river is navigable for small vessels, 80 miles to Panuco, a place celebrated in the history of the conquest, and still remarkable for the remains of buildings, weapons, and utensils found in its vicinity. Further north, on the Santander, is the port of Soto la Marina, with some trade, and on the del Norte is Metamoras, the commerce of which is, however, chiefly carried on by Santiago, as there is only six feet of water on the bar of the Norte. Santiago lies on a lagoon, a few miles north of the river, and has about 8000 inhabitants.

Ascending the table-land to the west of Tamaulipas, we enter the state of San Luis Potosi, which contains some of the richest silver mines of Mexico. The inhabitants are described as industrious, and they supply the states of Leon and Coahuila with cloth, hats, wearing apparel, &c. The capital, of the same name, is a neat and well-built town, containing a mint, and many handsome churches and convents, and it carries on an active trade with the interior. Including the suburbs, it is said to have a population of 50,000. Catorce, whose mines are surpassed in riches only by those of Guanaxuato, is built in a wild and rugged region, at the foot of a dreary mountain, surrounded by huge bare rocks, and intersected by deep, narrow ravines. The Puerto de los Muertos, or Gate of the Dead, near Monterey, is the only spot from Jalapa to Monterey at which wheel-carriages can ascend from the coast to the table-land, and the Catorce mining company were obliged to transport their machinery from Altamira to Catorce by this circuitous route. The mines of Charcas, Ramos, and Guadalcazar, are also very rich in silver.

The state of New Leon, lying to the east of the Sierra Madre, is yet sufficiently elevated above the sea to enjoy a delightful climate. Monterey, the capital, is a well-built town with about 12,000 inhabitants, many of whom are wealthy Spaniards. Linares is also a neat town in a highly cultivated district, and has a population of 6000.

West and north of New Leon, and stretching eastward to the Sabine, and northward to the Red River, is the state of Coahuila and Texas, comprising the two former provinces of those names. The first-mentioned consists of a comparatively narrow tract south of the Nueces, and between Tamaulipas and Chihuahua. Its extreme southern part lies on the central table-land, and the dreary mountains and barren plains in the vicinity of Saltillo present a striking contrast to the fertile land and luxuriant herbage of the Tierra Caliente of New Leon. Leona Vicario, formerly Saltillo, is a neat town with 12,000 inhabitants. Monclova, the capital of the state, is a petty village to the south of the Rio del Norte, which traverses the central portion of the province.

Texas, which we know not whether to call a province or an independent state, is enclosed by the Nueces, the Sabine, the Red River, and the great eastern ridge of the Rocky Mountains; but should its independence be secured, or should it be attached to the United States, it is not difficult to foresee that its frontier will be extended to the del Norte. Within the limits above described it has an area of about 160,000 square miles, consisting chiefly of a level or slightly undulating surface. The country along the coast is low, but free from swamps, and composed of good arable prairie, interspersed with well-wooded river-bottoms, and fine pasture lands. Until the late emigrations from the United States this section was filled with immense droves of mustangs, or wild horses, and wild cattle, but their numbers are now considerably lessened. The coast is a low, sandy shore, with few inlets or harbours, but containing several large shallow lagoons, of which the principal are Galvezton, Matagorda, Espiritu Santo, and Aransaso Bays; these receive all the principal rivers, except the Brazos. In the south-west the country is mountainous, being traversed by outliers of the Sierra Madre, which extend from the head waters of the Nueces to the Upper Brazos, where they sink down into the highlands of that section. These mountains, which contain the silver mines of San Saba, are pierced by the Colorado. To the west and north are vast prairies, in which immense herds of buffalo supply the mounted Camanches with abundance of game. In the north-east the country is more undulating and better wooded. The rivers are numerous, but of not much importance for navigation, as in the dry season they are extremely low, and during the floods are filled with floating timber. The principal stream, however, the Brazos, is navigated by steamboats and small vessels to a considerable distance. The climate of Texas is mild and agreeable, and, as the country is free from swamps, and the wooded tracts are quite open and destitute of underwood, is more healthful than the corresponding sections of the United States. The soil is highly productive, yielding tobacco, sugar, and cotton, as well as maize, wheat, and other products of the southern states. The seasons are two; the dry, from April to September; and the wet, which prevails during the rest of the year; the cold is pretty severe for a short time in December and January.

Previous to 1821, the only places occupied by whites were the Spanish ports of San Antonio de Bexar, Bahia, or Goliad, and Nacogdoches, comprising in all about 3000 inhabitants. Soon after that time, an attempt was made to establish here the independent republic of Fredonia, but the Mexican constitution attached the territory to the province of Coahuila, forming of the united provinces a state bearing the names of both. In consequence of the encouragement held out to settlers, there was a great influx of Anglo-Americans into the province, many of whom carried with them their slaves, although slavery was abolished by the federal constitution of 1824. Slaves were also imported from other quarters into the country. In 1832, the people of Texas formed for themselves a separate state constitution, and endeavoured to obtain from the Mexican Congress, a sanction of their proceedings and an admission into the confederacy as an independent state. Meanwhile, however, the mutual discontents and suspicions of the colonists and government were increased to such a degree, that resort was had to arms; Texas was invaded by the Mexican president in person; and the people of the province declared themselves in March 1836, a free and independent state. The towns are small; the principal are Bexar, or San Antonio, and Goliad, formerly Bahia, on the San Antonio; Matagorda, near the mouth of the Colorado; Brazoria, on the Brazos; Anahuac, on Galvezton bay; and Nacogdoches, in the eastern part of the country.

Proceeding again into the interior, we find the central table-land occupied by the states of Durango and Chihuahua, formerly composing the intendency of New Biscay, or Durango. "To the inhabitants of the southern and central provinces," says Ward, "everything north of Zacatecas is terra incognita, and the traveller is surprised, after passing it, to find an improvement in the manners and character of the inhabitants. Durango, where the change first becomes visible, may be considered as the key of the whole north, which is peopled by the descendants of a race of settlers from the most industrious provinces of Spain (Biscay, Navarre, and Catalonia), who have preserved their blood uncontaminated by any cross with the aborigines, and who retain most of the habits and feelings of their forefathers. They have much loyalty and generous frankness, great natural politeness, and considerable activity both of body and mind. The women, instead of passing their days in langour and idleness, are actively employed in affairs of the household, and neatness and comfort are nowhere so great and general as in the north. These characteristics extend, with some local modifications, to the inhabitants of the whole country formerly denominated the Internal Provinces of the West, and which now compose the states of Durango, Chihuahua, and Sonora and Sinaloa, with the Territories of New Mexico and the Californias. In all these the white population predominates, and the Indians continue unmixed, residing in towns and villages of their own as the Mayos, or hovering, like the Apaches, round the civilised settlements and subsisting by the chase."

Durango contains some rich mines of silver, which, with the agricultural produce, comprising cattle, mules, and sheep, cotton, coffee, sugar, and indigo, form the wealth of the inhabitants. The capital, of the same name, is a well-built town, with a mint, in which the silver of the vicinity is coined. It contains 25,000 inhabitants. Parral, famous for its rich silver mines, had once a population of 50,000; but the mines are now filled with water, and the population is reduced to 7000. In the neighbourhood is a celebrated lump of malleable iron and nickel. The mines of Guarisamey and Batopilas are also noted for their richness.

The central table-land may be considered as nearly terminating in Chihuahua, which consists in part of dry, unwooded plains; the soil is here impregnated with carbonate of soda and saltpetre. The capital, of the same name, is well built, and contains some costly churches, monasteries, and other public edifices; but the population has been reduced from

50,000 to one-third of that number. The rich mines of Santa Julalia in its vicinity once yielded 5,000,000 dollars a year. In the western part of Chihuahua, are the Casas Grandes, or ruins of large square buildings, whose sides are accurately ranged north and south; a space of several leagues is covered with these remains, consisting of aqueducts and various other structures.

The state of Occidente, or Sonora and Sinaloa, is a vast tract, lying between the Gulf of Mexico and the Colorado on the west, and the Rocky Mountains on the east. The southern part only contains some white inhabitants, the centre and north being occupied by various Indian tribes, among whom are the Apaches, Seris, Yaquis, Moquis, Mayos, &c. Many of them are civilised and industrious. The southern part of the state belongs to the Tierra Caliente, and consists of a vast sandy plain, destitute of vegetation, except in the rainy season and in some well-watered spots. Further north the climate is mild and agreeable, and the land is productive, and comprises some beautiful valleys. The state contains rich silver mines; gold is obtained from washings, and auriferous copper ore abounds. There are also pearl fisheries. Wheat, hides, furs, gold, silver, and copper, are exported. Guaymas is said to be the best harbour of Mexico, but the town is unhealthy, and the water brackish. Petic, in the interior, is the residence of the wealthy merchants, and is a place of considerable trade, being the depôt of articles imported into Guaymas for Upper Sonora and New Mexico. The town is irregularly built, but it contains many good houses, and about 8000 inhabitants. Alamos is a place of about 6000 inhabitants, having in its vicinity some of the richest silver mines in Mexico. Villa del Fuerte is the capital of the state. Mazatlan has a good harbour, though exposed to the south-west winds.

The territory of New Mexico is only an infant settlement, formed on the Rio del Norte, in a fertile territory, but having a climate remarkably cold, considering the latitude. It is separated from Chihuahua by a vast, arid, and perilous desert. The settlers have a still harder conflict to maintain with the Indians, a few of whom, however, have attained a certain degree of civilisation. A great number of sheep are reared, of which about 30,000 are sent to the southward; and there are some mines of valuable copper. Santa Fé, the capital, contains about 5000 inhabitants. The caravan route from St. Louis terminates here.

Lower California is a long peninsula in the Pacific, parallel to the continent, from which it is separated by its deep gulf. The Spaniards long viewed it as an El Dorado, or country of wealth, their hopes being fed by some pearls found on its shores; but a close examination has dispelled those visions. California enjoys the most beautiful sky in the world; constantly serene, blue, and cloudless; or if any clouds for a moment appear, they display the most brilliant tints. But the soil is sandy and arid like the shores of Provence, and only a few favoured spots present a trace of vegetation. Nowhere can be found a finer abode for the astronomer, or a worse for the cultivator. There are about 7000 or 8000 Spaniards and converted Indians, and 4000 savages; and it is not supposed that the population can ever be much greater. The missions have been pretty much broken up since the revolution. Loreto, once a place of some note, now contains about 250 inhabitants.

New or Upper California is a vast tract extending north from Lower California to the lat. of 42°. A lofty ridge of mountains runs along its western side, not far from the sea, forming the prolongation of the mountains of the peninsula, and extending north beyond the Columbia. Along the coast the Spaniards have established some missions, and formed some settlements of whites. The former are now rapidly declining. Beechey found here twenty-one establishments, containing about 7000 converts. They are often forced to join the missions, but they are kindly treated, and well fed; they are, however, not allowed to leave the settlements, and the surplus of their labour belongs to the missionaries; the missions have about 300,000 head of cattle. The climate is temperate and healthful, the land is well watered and well wooded, and much of it is tolerably productive. The coast has some excellent harbours, among which is that of St. Francisco, which affords perfect security to ships of any burthen, with plentiful supplies of fresh beef, vegetables, wood, and fresh water. The exports are hides, tallow, manteca, and horses, to the Sandwich islands, grain to the Russian establishments at Sitka and Kodiak, and provisions sold to whale ships. The imports are salt, deal-boards, furniture, drygoods, and silks. The Russians have taken possession of the Farallones, and some islands off Santa Barbara, and their settlement at Rossi, a few miles north of Bodega, is strongly fortified. On the east of the coast chain abovementioned, and extending to the Colorado and the Rocky Mountains, is a vast sandy plain, about 100 miles in width in its southern part, and 200 in the northern, by 700 in length, consisting of a bare, arid surface, with some isolated mountains interspersed here and there over its dreary bosom. In the north-eastern part of this great desert, is a large salt lake, which Mr. Tanner has called Lake Ashley.

CHAPTER X.

NORTHERLY AND WESTERLY REGIONS OF AMERICA.

THE regions of North America, occupied by Europeans, or the descendants of Europeans, comprehend scarcely a half of its surface; there remains a vast expanse held still, almost undisturbed, by its native tribes. Three powers, indeed, Britain, Russia, and the United States, have by claim or treaty partitioned the whole territory among them. It is, however, neither possessed by them nor even known, unless in the lines crossed by hunting or exploratory expeditions; and in one direction by a few stations, at vast distances, called houses, erected by the fur companies, and slightly fortified, so as to be impregnable by the scanty bands of savages who traverse this region. The demarcation is traced, therefore, not by the features of nature, which are unknown, but by mechanical lines, traced on a map, according to the degrees of latitude and longitude. This arrangement appears to be premature. It seems enough if civilised nations rank as their own the countries of which they have actual possession, not those of which they have only a remote and prospective occupation.*

SECT. I.—*General Outline and Aspect.*

This portion of America is of very irregular form, and some of its limits are exceedingly vague. On the south it may be stated to be bounded by Lower and Upper Canada, and by the western part of the United States. To the west, a large portion of it, extending southwards, called by the Americans Columbia, or Oregon, is bounded on the east by the Rocky Mountains, and on the south by the Mexican territory. All the other boundaries are maritime, and are, on the east, the Atlantic, broken into numerous and deep bays; on the north, the Arctic Ocean, ranging in a varying line between the 70th and 74th degrees of latitude; on the west, the Pacific, forming a very winding line of coast, diversified by numerous islands. This region may, therefore, range from 60° to 168° of west longitude; making, in this latitude, a length of about 4000 miles; while the general breadth may be considered as lying between 50° and 70° of latitude, and amounting to about 1600 miles.

The general features of this vast region are so little varied, and also so imperfectly known, that they may be described in few words, and cannot afford room for the usual subdivisions. A very large proportion is bleak, and chilled beneath the influence of an arctic sky. Even

References to the Map of the Northerly and Westerly Regions of America.

BRITISH TERRITORY.
1. Fort Good Hope
2. Fort Norman
3. Old Fort
4. Fort Simpson
5. Fort Providence
6. Fort Enterprise
7. Fort Resolution
8. Fort Chipewyan
9. Fort Fork
10. Fort George
11. Edmonton House
12. Nelson's House
13. Acton House
14. Chesterfield H.
15. Grant's House
16. Albany House
17. South Branch House
18. North-West House
19. Carlton House
20. Cumberland House
21. North-West House
22. Hudson's Bay House
23. La Crosse Lake House
24. North-West House
25. Hudson's Bay House
26. Deer Lake House
27. Nelson's House
28. Fort Churchill
29. York Factory
30. Severn House
31. Rock House
32. Oxford House
33. Cat Lake House
34. Red Lake House
35. Fort Alexander
36. Osnaburgh House
37. Brunswick House
38. Albany Fort
39. Moose Fort
40. Abbitibbe House
41. Rupert's House
42. Whale River House
43. Quebec
44. St. John's
45. Halifax
46. Liverpool
47. Newcastle
48. Dalhousie
49. Nain.

RUSSIAN TERRITORY.
1. Fort Alexandrovskaia
2. Russian Factory
3. Fort Palovskaia
4. Port Snettisham.

WESTERN TERRITORY.
1. Village of Rascals
2. Attnas
3. Fort Alexander
4. Old Fort
5. Fort
6. Athabasca.

Rivers.
a Mackenzie's River
b South Branch, or River of the Mountains
c Yellow Knife River
d Coppermine River
e Hood's River
f Clowey
g Slave River
h Buffalo Creek
i Ungigah, or Peace River
j Iacoutche Tesse, or Frazer's River
k Thompson's River
l Columbia
m Red Deer River
n South Branch of the Saskatchawan
o North Branch of the Saskatchawan
p Saskatchawan
q La Biche, or Elk
r Clearwater
s Beaver River
t Missinippi
u Great River
v Red River
w Seal River
x Deer River
y Churchill River
z Nelson River
a* Hayes River
b* Hill River
c* Sea River
d* Beeren's River
e* Cat Lake River
f* Albany
g* Equan
h* Cacoonacaucaumistic
i* Moose River
j* Abbitibbe
k* Harricanaw
l* Rupert's River
m* East Main
n* Great Whale, R.
o* St. Lawrence.

Lakes.
a Great Bear Lake
b Esquimaux
c Marten
d Great Slave Lake
e Point
f Congo-ca-tha-wha-chaga
g Theye-noye-kyed
h Cheesadawd
i Doobaunt
j Yath Kied
k North-lined Lake
l Big Lake
m Split Lake
n Nelson Lake
o Deer Lake
p Wollaston Lake
q Black Lake
r Athabasca, or Lake of the Hills
s Methye
t Buffalo
u La Crosse
v Little Slave Lake
w Babine
x Bear Lake
y Otchenankane
z Flat Bow
a* Sandy Lake
b* Lake of the Woods
c* Little Winnipeg
d* Manitoulin
e* Winnipeg
f* Red Lake
g* Sal Lake
h* St. Joseph
i* Cat Lake
j* Frog Lake
k* Waymuskee
l* Abbitibbe
m* St. John
n* Mistissinny
o* Piretibbi
p* Manicouagan
q* Nitcheguon
r* Caniapuscaw
s* Methy
t* Seal Lake
u* Clearwater.

Islands.
1. Vancouver's
2. Queen Charlotte's
3. Princess Royal
4. Revillagigedo
5. Prince of Wales
6. King George the Third's Archipelago
7. Admiralty
8. Montague
9. Afognak
10. Kodiack
11. Nunivack
12. St. Lawrence, or Clerk's
13. Herschel
14. Whale
15. Richards
16. Melville
17. Sabine
18. Byam Martin's
19. Bathurst
20. Cornwallis
21. Cockburn
22. Vansittart
23. Southampton
24. Tom's
25. Marble
26. Belcher's
27. Committee
28. Brothers
29. West Sleepers
30. Mansfield
31. Nottingham
32. Salisbury
33. Long River
34. Alipatok
35. Resolution
36. Anticosti
37. Prince Edward
38. Cape Bret
39. Lichtenfels
40. Disco
41. Waygat
42. Women
43. Sabina
44. Cary
aa Victory Harbour.

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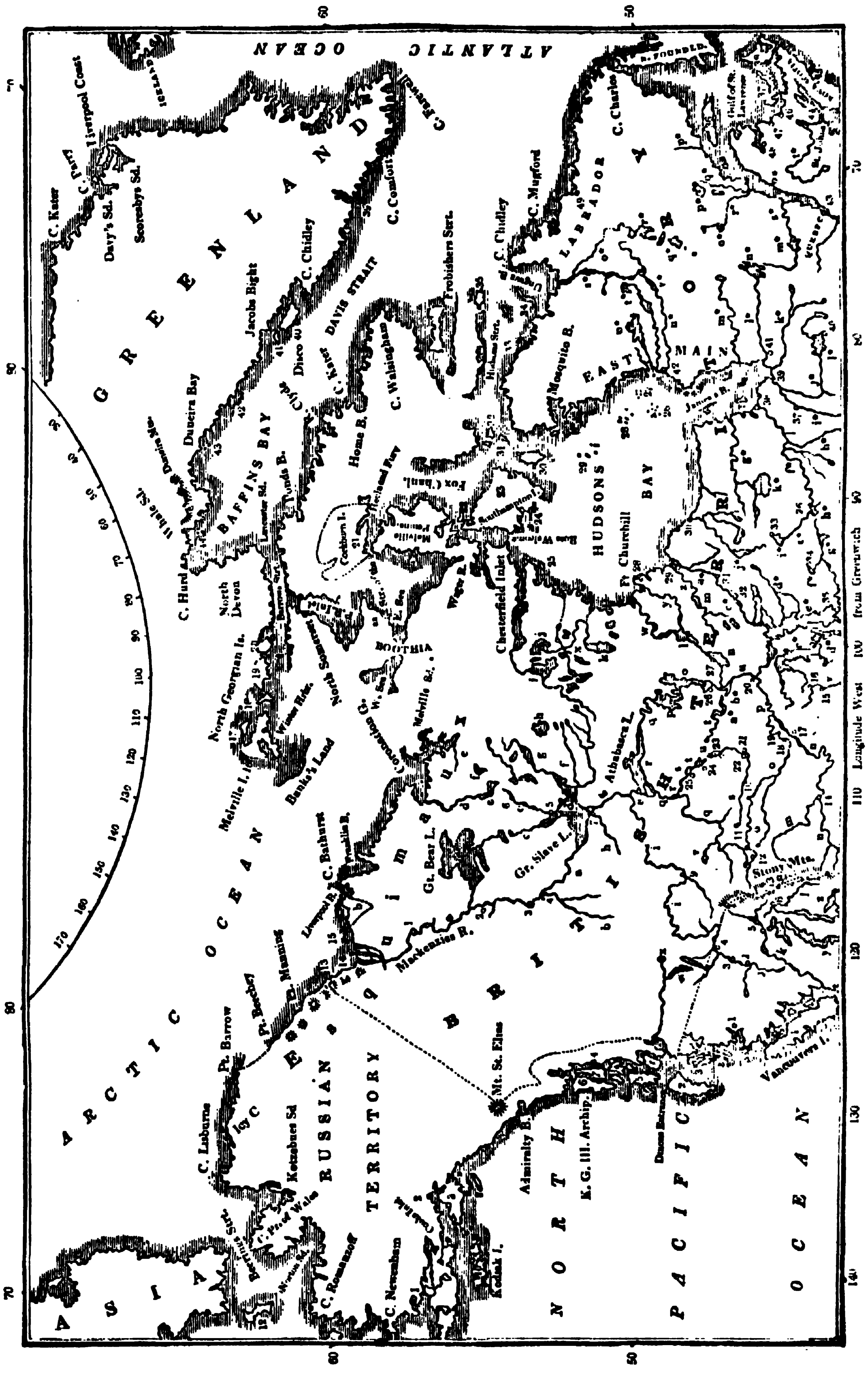
* The Arctic islands, with Greenland, are described in Chap. 3. of Book IV.

Fig. 1048. MAP OF THE NORTHERLY AND WESTERLY REGIONS OF AMERICA.



extensive tracts, endowed with great natural fertility, are destitute of culture, and covered with pine forests. The only commodity fitted for trade consists in the skins and furs of the numerous animals by which it is tenanted; and these, being destined to defend against the rigour of an arctic climate, are exceedingly rich and valuable. To obtain them is the chief motive which has impelled Europeans to traverse the expanse of these boundless and dreary wilds. The native inhabitants are thinly scattered, and are all in the savage state, the rudest under which human society can exist. Some display all the ferocity incident to that character; while others are comparatively mild and peaceable. They are divided into two distinct races; those whom we call Indians (*fig.* 1048.), and whose various tribes occupy the whole interior of the continent; and Esquimaux, who are found tenanting all the shores of the Arctic Ocean.

1048

Indian and his Squaw.

The greatest mountains in North America traverse the western part of this region. The continuous chain of the Rocky Mountains forms the eastern boundary of the district claimed by the United States. The principal chain, so far as our imperfect information goes, takes a north-easterly direction, and runs parallel, first to the Mackenzie River, and then to the Arctic Ocean, where recent discoverers have given to different portions of it the names of Richardson, Buckland, Romanzoff, &c. A coast chain appears to extend along the western shore, forming the prolongation of the mountain range of California, and in the northwest shooting up into the lofty peaks of Mounts Elias and Fairweather, which overhang the Pacific. The eastern part of the tract is almost entirely level, and forms a continuation of that great plain, which, including the basin of the Mississippi, reaches from the Gulf of Mexico to the Northern Ocean.

Rivers and other waters abound in a region which, even in its most level tracts, is covered with extensive forests, and subject to little evaporation. The most southerly part of the great eastern plain includes the sources of the Mississippi, and of those numerous streams which form Lake Superior and ultimately the St. Lawrence. In another direction the two Saskatchawans, flowing from the eastern side of the Rocky range, unite and fall into Lake Winnipeg. From the same quarter the Ungigah, or Peace River, united to the Athabasca, and passing through Slave Lake, forms the Mackenzie River whose course from its remotest head cannot be estimated at less than 2000 miles. Farther to the east the Arctic Ocean receives the less ample streams of the Coppermine River and the Thleweecho. Hudson's Bay forms the receptacle of the considerable streams of the Missinippi, Churchill, the Nelson, and Hill rivers. In the west, the Columbia, descending from the Rocky Mountains, and receiving the Clarke or Flathead and the Saptin or Lewis falls into the Pacific, after a rugged and broken course of about 1500 miles.

Lakes also are largely produced by the copious waters collected on the dead level of the great eastern plain. The spacious expanse of the Winnipeg borders immediately upon Upper Canada. Northwards along the line of Mackenzie River are the Athabasca or Athapescow, the Slave and the Great Bear lakes, all of large dimensions. Numerous smaller bodies of water are spread over this district, particularly in the newly discovered territory of Boothia. These lakes, however, in the heart of an arctic region, frozen for half the year, and almost always encumbered with floating ice, confer few benefits on the surrounding country, and present serious obstructions to the traveller.

Sect. II.—*Natural Geography.*

Subsect. 1.—*Geology.*

Of the Geology of these most northern regions of America, a general idea will be conveyed by the following details:—

I. The Rocky Mountains, and the Mackenzie River, from Great Bear Lake, in N. lat. 65° to the Northern Ocean.—The Rocky Mountain range is principally composed of primitive rocks, which support an extensive deposit of secondary formation. The sea-coasts, from them towards the Mackenzie, are shallow, and skirted with islands, sometimes bounded by a gravelly beach, at other times with high banks of sandstone or cliffs of limestone. Greenstone, sandstone, and limestone occur in pebbles on the shore. On the sea-coast, west of the Mackenzie River, Captain Franklin collected greywacke, clay slate, limestone Lydian stone, quartz, potstone, and rock crystal. Brown coal, clay ironstone, pitch coal, and limestone were seen on the shores opposite the Rocky Mountains; and westward, towards Icy Cape, were noticed greywacke slate traversed by veins of quartz and iron pyrites. On Flaxman's Island, N. lat. 70° 11', W. long. 145° 50'; were seen greenish clay slate, brought down by the rivulets and torrents from the Rocky Mountains. From the east end of Lake Superior, slightly converging towards the Rocky Mountains, to the east side of Great Bear Lake, there is a range of primitive rocks but little elevated above the surrounding country. For 700 miles, beginning in N. lat. 50°, between these two ranges, the space is occupied principally by horizontal strata of limestone as far as 60° north. The shores of Great Bear Lake are of primitive rocks, sometimes rising into hills of 800 or 1000 feet. Masses of rock and gravel, apparently derived from the hills, consisting of quartz rock, granite, and gneiss, are found on the surface and in the valleys. The north shore of Bear Lake is formed of boulders of limestone. Fort Franklin stands on a bay of the west coast, and the bottom of the bay and the beach are strewed with boulders of granite, syenite, porphyry, greenstone, amygdaloid, porphyritic pitchstone, dolomite, limestone with corallines, gray and red sandstone. The soil in the vicinity of Fort Franklin is sandy or gravelly, covering a bluish plastic clay, which is firmly frozen during the greater part of the year. Narrow ridges of limestone rise in the country west and north of Fort Franklin, which is otherwise level as far as the eye can reach.

Bear Lake River.—Gray sandstone forms the banks of the river. Salt springs, yielding excellent common salt, fall into the river a little below the rapid, at that point where the Rocky Mountains first appear in the distance. The strata on the sides of the rapid are sandstone. Brown coal, with impressions of fern, occur on the banks; also ammonites in a reddish iron-shot sandstone. The Bear Lake River flows into the Mackenzie through banks of a grayish black limestone, traversed by veins of white calcareous spar. The upper beds are calcareous conglomerate, associated with limestone impregnated with mineral oil, also bituminous shale. Sulphurous springs and streams of mineral oil are seen issuing from the lower limestone strata on the banks of the Mackenzie, when the waters are low.

Mackenzie River.—The banks of the river, at its junction with Bear Lake River, are composed of different brown coal, alternating with pipe clay, potters' clay, &c. The beds of coal take fire on being exposed to the atmosphere. The pipe clay is used by the natives for food when provisions are scarce. It is not unpleasant to the taste, and it is said "to have sustained life for a considerable time. The traders use it for whitening their houses. It is associated with a rock resembling bituminous shale on the shores of the Frozen Sea." Deposits of brown coal occur near the Rocky Mountains, along their eastern edge, in a narrow strip of marshy, boggy, uneven ground; and again on a branch of Peace River, and on the Saskatchawan in N. lat. 52°, and on Garry's Island, near the mouth of the Mackenzie. On the banks of the Mackenzie, below Bear Lake River, are steep cliffs, and in many places underneath are rocks of limestone. Salt springs are said to occur in connection with this formation. The Rocky Mountains appear at no great distance from the Mackenzie. At the rapids in that river, where limestone ridges traverse the country forty miles below the first rapid, the sides of the river rise into mural precipices of limestone, weathered into columns and castellated towers. At this remarkable rapid, called by the natives the Ramparts, the river is narrowed to 300 yards, with 50 fathoms depth of water, and the defile is three miles in length. The banks rise on each side of this vast chasm from 80 to 100 feet above the level of the river. The rocks of the Ramparts are of granular foliated limestone, coloured with mineral oil; and, accompanying the river through this rent, many varieties of limestone occur. Below the Ramparts the river expands to a breadth of two miles, and its banks slope away to a moderate height. In N. lat. 66°, mural cliffs of sandstone or quartz rock, 160 feet high, repose on horizontally stratified limestone, containing chain coral. Forty miles below the sandstone cliffs, marl slate occurs, forming the banks of the river, which again contracting, gives to this reach, for twenty miles, the name of the Narrows. On emerging from the Narrows, the Mackenzie forms a number of deltas, through which it falls into the sea. The Rocky Mountains form the western boundary of the lowlands of the deltas, and the Reindeer Hills a parallel boundary on the east side. Limestone occurs in conical hills, but a loose sandstone predominates. These hills gradually diminish in height, and the eastern branch of the river runs round this northern limit in N. lat. 69°. White spruce grows as far as 68°, where it disappears. The country thence becomes a frozen morass, onward, north of the hills, seldom thawing more than six or eight inches from the surface.

Alluvial Islands.—The space occupied by the various reaches of the Mackenzie, between the Rocky Mountains and the Reindeer Hills, is ninety miles in length, and from forty to fifty in breadth. The river forms this tract into islands, by the numerous channels through which it winds its way to the sea. The islands are most of them flooded in spring, but annual accumulations of drift-wood and sand have raised some parts above the reach of the annual inundations, and as far north as lat. 68° the highest parts are clothed in summer with dwarf willows and white spruce. Sandy shoals skirt the coast, and the whole line from Cape Bathurst in W. long. 127°, as far west as the Sacred Islands in W. long. 137°, presents a similar outline and structure. The sea coast, east from the Mackenzie for many miles, is low, with occasionally gently swelling sand hills. The beaches and capes are covered with boulders of limestone, sandstone, and syenite. Some of the promontories consist of bluish slate clay, reddish slate clay, with interspersed crystals of selenite, and exhibits the aluminous mineral called Rock Butter.

Sea-coast east of the Mackenzie.—At Parry's Peninsula, still on the edge of the sea, limestone begins. The beaches are covered with limestone boulders, and on the steep banks it appears in weather-worn columns, while in other sections it appears in horizontal strata; and fragments of chert, dolomite, and greenstone, are scattered over its surface. Vegetation is very scanty, and over large tracts there is not even the vestige of a lichen.

Sea-coast. Cape Lyon to the Coppermine River.—Slate clay traversed by and covered with trap rocks forms hills rising to a height of 700 or 800 feet above the sea, and appearing on the coast in the form of lofty precipices. Eastward the line of coast becomes lower, red quartzy sandstone occurs, and Gothic arches of limestone form striking objects. Naked barren ridges of iron-shot greenstone cross the country at Point De Witt Clinton, and the upper soil consists of magnesian limestone, gravel, and bluish clay. From this district to the mouth of the Coppermine River, limestone is the prevailing rock, accompanied by sandstone, greenstone, and porphyry, with various disseminated minerals. Vegetation ceases before reaching this line of coast, which is between 69° and 70° N. A patch of moss, or a clump of dwarf willows in crevices, or under the shelter of decaying drift-wood, occasionally appear; but with these very rare exceptions, no trace of verdure or herbage is seen.

II. *From Slave Lake to the Arctic Ocean by the Coppermine River.*—Granite rocks occur east of the Slave River, where it joins Slave Lake, and the same rock forms the Reindeer Islands. The same formation continues to Carp Lake, producing on its hills and valleys spruce firs, Banksiana, and aspen. On Point Lake, in lat. 65° N., the prevailing rocks are greywacke and clay slate, with magnetic greenstone. In the sheltered valleys spruce firs are seen, but farther east, where gneiss crosses the river, there is no wood. In lat. 66° N., high peaks of red granite and syenite, and large beds of greenstone, are said to pass through and overlay quartz rocks. In the beds of the torrents intersecting the plains are found fragments of red-coloured, granular foliated limestone, red sandstone, quartz rock, and trap containing prehnite. The Copper Mountains consist chiefly of trap rocks, resting upon and traversing red sandstone and limestone. Small masses of native copper occur disseminated through the trap rocks. In the valleys are found native copper, green malachite, copper glance, and prehnite. North of the Copper Mountains trap hills occur. The intermediate country consists of a deep sandy soil, and some of the eminences are clothed with grass, but the ridges are destitute of vegetation. On the west banks of the river, red granite extends from the Copper Mountains to the sea, where it forms mural precipices on the coast. The main shore, for sixty miles east of the Coppermine River, is a low shelving gravelly beach. Eastward of the beach trap rocks re-appear, and form an exceedingly sterile and rocky coast. The islands near this coast abound in cliffs of greenstone and claystone porphyry. The whole country is barren, one ridge of rocks rising above another, with stony valleys between, without a trace of vegetation. Granite occasionally rises up into acute and craggy peaks 1500 feet high, alternating with low naked ranges of gneiss. In one instance a vein of sulphuret of lead or galena was found enclosed in the gneiss, which is often intersected by veins of trap and porphyry. Continuing east, red sandstone, with bluish gray slate, appear. Amygdaloid, enclosing agates, occurs in Barry's Island. On the coast gneiss re-appears at short distances, with occasional lofty peaks of granite. According to Dr. Richardson, a red sandstone, which he conjectures may be the new red sandstone of authors, prevails on the Arctic sea-coast, from the mouth of the Coppermine River, in W. long. 116° eastward, to Cape Turnagain, which is in W. long. 109°, N. lat. 69°. The gneiss formation is next in extent, and runs parallel, within the red sandstone, extending from the sea to Fort Enterprise, in lat. 65° N., presenting the true "Barren Ground." The general direction of the strata just mentioned is N.W. and S.E., and the mean angle of inclination 45°. Granite, syenite, gneiss, mica slate, clay slate, occur throughout this, with their usual geognostical relations. Gneiss is the most extensively distributed, always attended with a scanty vegetation, and generally the most desolate sterility. The masses which occur on the summit of the hills on the Barren Grounds are generally of granite, derived from the subjacent rocks. Extensive alluvial deposits occurred on the line of the first journey performed by Franklin, such as lakes filled up by deposits from rivers, and the débris of mountains washed down by torrents, besides alluvial peninsulas formed by the action of the sea.

III. *Melville Island, Port Bowen, and the coasts of Prince Regent's Inlet.*—Winter Harbour, in Melville Island, is the most western point ever navigated in the Polar Sea from the eastern entrance. It is in N. lat. 74° 26′, and W. long. 113° 46′. The length of Melville Island is 130 miles from E.N.E. to S.S.W., breadth forty or fifty miles. Sandstone of the coal formation, with casts and impressions of plants, resembling those found in the coal-fields of Britain, form the principal mass of the island.

Port Bowen and the coasts of Prince Regent's Inlet.—Secondary limestone, by some considered as identical with mountain limestone, forms both sides of Prince Regent's Inlet. It is everywhere deposited in horizontal strata. It contains embedded masses of chert, and organic remains of various kinds. On the hills, and on the surface of a red coloured limestone, were found masses of fibrous brown iron ore, and also brown coal. On the west side of Prince Regent's Inlet thick beds of gypsum extend thirty miles through the country, associated with a limestone which, when near the gypsum, abounds in organic remains. All the gypsums are of a white colour, and of these the foliated, fibrous, and granular are met with, but not the compact.

Alluvial deposits.—Alluvial marl deposits, from the snow waters passing through and over the limestone strata in the summer, occur on the shores and in the valleys, and fragments of limestone are scattered in different directions by the same agency; but the limestone hills in many parts, and the country generally, were more or less covered with boulders of primitive rocks. Some of these were upwards of fifty tons in weight. They abound near the sea-coast, gradually diminishing in size and number, and at the distance of fourteen or sixteen miles from the sea, they are comparatively small and seldom. The nearest known fixed primitive rocks were upwards of 100 miles distant from these remarkable boulders.

IV. *Islands and countries bordering on Hudson's Bay.*—The lands bordering on Hudson's Bay, and the islands which it encloses, are generally hilly, and are usually disposed in ranges, but are not very lofty, the average being about 800 feet, and the highest summits not exceeding 1500 feet above the level of the sea. The valleys are narrow and rugged, and the cliffs often display mural fronts of more than 100 feet in height. Wherever the shores are low, flats and shoals extend far out, making a shallow sea; but where the coast is rocky and steep, the sea is proportionably deep. The country is covered with snow and ice the greater part of the year. The upper soil varies from two or three inches to one foot in depth, beneath which the ground is frozen like the most solid rock. In the summer, a few plants appear in the fissures of the rocks, in sheltered places. The general aspect of the country indicates the prevalence of primitive rocks, but no volcanic rocks have hitherto been met with. The islands and countries bordering on Hudson's Bay, between lat. 60° and 69° N., and long. 65° and 125° W., are composed of primitive, transition, secondary, and alluvial rocks.

Primitive rocks.—These are, granite, gneiss, mica slate, clay slate, chlorite slate, eurite porphyry, hornblende rock, hornblende slate, primitive greenstone, serpentine, and primitive limestone. Several interesting minerals occur in these rocks, such as garnet, zircon, rock crystal, beryl, coccolite, asbestos, graphite, magnetic iron ore, magnetic pyrites, chromate of iron, &c.

Transition rocks.—These are, quartz rocks in many various forms, greywacke, greywacke slate, transition clay slate, and flinty slate.

Secondary rocks.—1. Limestone enclosing corals, trilobites. orthoceratites, and many fossil shells. 2. Bituminous shale, an indication of the coal formation. 3. Secondary greenstone, sometimes containing titanitic iron ore, sometimes iron-shot and porphyritic, and at others crossed by veins of calcareous spar.

Alluvial deposits.—But few alluvial deposits are mentioned as occurring in those parts of the arctic regions that border on Hudson's Bay. The most striking objects are the boulders spread over some of the islands. Whole limestone islands are covered with blocks of granite, gneiss, and quartz, both in rounded masses and in angular forms.

Subsect. 2.—*Botany.*

The Botany of these regions has been already noticed, under the heads of British America, and Siberia.

Subsect. 3.—*Zoology.*

The Zoological features, in regard to the ferine inhabitants of these wild and uncivilised tracts, have been sufficiently dwelt upon in our introductory remarks. We shall, therefore, merely notice, more in detail, a few of the most interesting quadrupeds already mentioned.

The Polar or Sea Bear is precisely the same as that of Arctic Europe; but Dr. Richardson considers its size to have been much exaggerated by the older voyagers: it never exceeds nine feet in length and four and a half in height. Many interesting and even distressing anecdotes are upon record, attesting its amazing strength and dreadful ferocity. The principal residence of this formidable animal is on fields of ice, with which he is frequently driven to a great distance from land; but he not only swims with rapidity, but is capable of making long springs in the water. This species, being able to procure its food in the depth of even an arctic winter, has not the necessity to hibernate; its pace, at full speed, is a kind of shuffle, as quick as the sharp gallop of a horse.

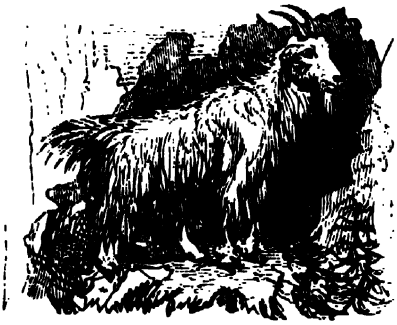
1050

Musk Ox.

The Musk Ox (*Bos moschatus*) (*fig.* 1050.) derives its name from its flesh, when in a lean state, smelling strongly of that substance. It is truly an arctic animal, the districts which it inhabits being the proper lands of the Esquimaux. Grass at one season and lichens at another, supply its only food. In size, the Musk Ox scarcely equals that of the small Highland cattle: the carcase, when cleaned, not weighing more than 3 cwt. Notwithstanding the shortness of its legs, it runs fast, climbing hills and rocks with great ease: it assembles in herds of from twenty to thirty, and flees at the sight of man; the bulls, however, are very irascible, and when wounded will attack the hunter, and endanger his life.

The Wild Goat and Sheep of the Rocky Mountains deserve a brief notice; particularly as the two animals have been much confused in the accounts of travellers. The first (*Capra americana* Rich.) (*fig.* 1051.) is as big as the domestic sheep: its fleece hanging down on the sides like that of the Merino breed; the hair is long and straight, coarser than that of the sheep, but finer than that of the common goat. It inhabits the most lofty peaks of the Rocky Mountains, and probably extends from 40° to 65° lat. The fine wool which it produces grows principally on the back and hips, and is intermixed with long coarse hair.

1051



Rocky Mountain Goat.

1052

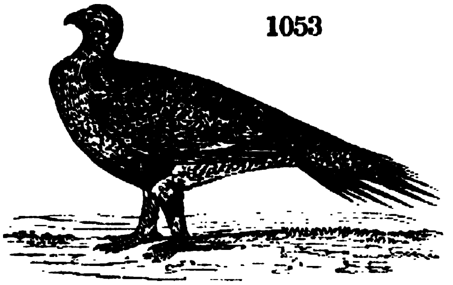
Rocky Mountain Sheep.

The Rocky Mountain Sheep (*Ovis montana* Rich.) (*fig.* 1052.) was seen by the first Californian missionaries so far back as 1697; but its true nature or history was only known of late years. It is much larger than any domestic sheep: the horns of the ram are immense. The hair is like that of the rein-deer; at first short, fine, and flexible; but as winter advances, it becomes coarse, dry, and brittle, though it feels soft; it is then so close as to become erect. The Rocky Mountain Sheep inhabit the lofty chain of mountains from which their name is derived, from its northern termination in lat. 68° to about lat. 40°. They collect in flocks from three to thirty, the young rams and the females herding together, while the old rams form separate flocks. Mr. Drummond mentions that the horns of the old rams attain a size so enormous, that they effectually prevent the animal from feeding upon level ground.

Among the other larger game are the Bison, the Wapiti, the Moose, and seven other species or varieties of Deer, four different Hares, and several other smaller quadrupeds, which our confined limits will not permit us to notice.

The Ornithology assimilates in many respects to that of Arctic Europe, as most of the aquatic birds found in one country are common also in the other. The land birds, however, are almost entirely different, while nearly all the grouse of the New World are exclusively confined to these northern latitudes. The Grouse of the northern regions of America constitute the most peculiar feature in their ornithology; the species are more numerous than those of Europe, from which also they are totally distinct. The largest is the Centrocircus urophasianus *Sw.* or Cock of the plains (*fig.* 1053.): a noble bird, fully equal to the T. urogallus, and distinguished by a long, cuneated tail, the feathers of which are narrow and pointed; the male is distinguished by two naked spaces nearly in front of the breast, which, when inflated can only be compared to the bust of a female figure. It inhabits the extensive plains near the sources of the Missouri. Another species, the Tetrao obscurus, or Richardson's Grouse, is of the same size, and bears some resemblance to the Black Cock of England.

1053



Cock of the Plains.

The Water Birds comprise, in all probability, nearly the whole of those European species which have been detected in America, with some few others hitherto undescribed. Among these may be named the following Ducks as being contained in the collections of Dr. Richardson:—

Anas canadensis *L.*	Canadian Goose.
Anas clypeata *L.*	Shoveller Duck.
Boschas domestica *Sw.*	Mallard Duck.
Dafila caudacuta *Leach.*	Pintail Duck.
Marica americana *Steph.*	Am. Widgeon.
Marica obscura *Steph.*	Dusky Duck.
Boschas discors *Sw.*	Blue-winged Teal.
Boschas Crecca *Sw.*	Green-winged Teal.
Oidemia perspicillata *Sw.*	Black, or Surf Duck.
Anas nigra.	Scoter Duck.
Fuligula rubida *Bon.*	Ruddy Duck.
Fuligula marila *Bon.*	Scaup Duck.
Fuligula rufitorques *Bon.*	Tufted Duck.
Clangula vulgaris *Leach.*	Golden-eye Duck.
Clangula albeola *Leach.*	Buffel-headed Duck.
Clangula histrionica *Leach.*	Harlequin Duck.
Harelda glacialis *Leach.*	Long-tailed Duck.
Fuligula ferina *Steph.*	Red-headed Duck.

1054

Great Californian Vulture.

The most remarkable of the Land Birds is the Great Californian Vulture (*Vultur californianus*) (*fig.* 1054.), which seems confined, according to the observations of Mr. D. Douglas, to the woody districts of that country. They build in the most secret and impenetrable parts of the pine forests, invariably selecting the loftiest trees overhanging the deepest precipices. It measures from four feet to four feet and a half long, and the quills are so large as to be used by the hunters as tubes for tobacco-pipes. Their food is carrion, or dead fish; for in no instance will they attack any living animal, unless it be wounded and unable to walk. In searching for prey, they soar to a great altitude, and on discovering a wounded deer, or other animal, they follow its track until it sinks. Although only one bird may be first in possession, it is soon surrounded by great numbers, who all fall upon the carcase and devour it to a skeleton within an hour, even though it be a horse or a stag: their voracity, in short, is almost insatiable.

Sect. III.—*Local Geography*

Of a country so extensive and so imperfectly known, it would, as already observed, be impossible to give a detailed account, arranged under the ordinary general heads. It will, therefore, be necessary to describe the several parts successively, as in the local sections. We shall describe it provisionally according to the nations by whom each territory is claimed, as this division coincides in some measure with that formed by nature. The British territory includes all the eastern part of the region, extending at one point as far as the opposite coast; while the Russians claim the north-west, and the Americans the south-west parts of the territory.

Subsect. 1.—*Territory claimed by Britain.*

The most eastern part of this territory is Labrador, a vast region extending about 700 miles in each direction, and included between the Atlantic and the spacious inland sea called Hudson's Bay. It has all the characteristics of an arctic territory; is filled with small frozen lakes, and covered with extensive forests of fir, birch, and pine. Numerous rivers, the early course of which is unknown, discharge themselves into the sea, forming excellent harbours, if there were any trade to conduct. The coast is diversified with almost innumerable islands, tenanted by numerous flights of waterfowl. The coast along Hudson's Bay is called the East Main, and the climate there is peculiarly severe. The inhabitants are of two classes: the Esquimaux, who occupy all the coasts, and share the industrious and peaceable character of their race; and the mountaineers, probably Indians, of a ruder and fiercer character: and between these two races bloody contests are waged. No settlements have been formed on these dreary shores with a view either to commerce or cultivation. It is only the ardent zeal of missionary teachers, particularly the Moravians, which has induced them to form several settlements; particularly at Nain, where they have assembled a few of the rude natives, teaching them at once the doctrines of Christianity and the first elements of social life.

Numerous islands, single or in groups, diversify the interior of Hudson's Bay, and particularly the long strait which leads into it. These are chiefly Southampton and Mansfield Island in the northern part of the bay itself, the former very large; Mill, Salisbury, Nottingham, Charles, and the Savage Islands in the straits; Marble Island, off the western coast; Agomisca, North and South Bear, and many smaller islands at the southern extremity. These islands, like the adjacent shores, are inhabited by different tribes of Esquimaux, many of whom are described by navigators as fierce and rapacious.

The western coast of Hudson's Bay chiefly deserves attention, since upon it nearly all the English settlements are situated. The principal of these is York Fort, a few miles up Hayes or Hill River, and in the close vicinity of which Nelson River also discharges itself into the gulf. York Fort is built on a spot so watery and swampy, that in summer, when the snow has completely melted, the inhabitants have no walk unless upon a platform laid between their house and the pier. The place forms a large square, one part of which consists of the habitations, the other of the stores for merchandise. The Hudson's Bay Fur Company have also to the north Fort Churchill, on the great river Churchill, or Missinippi; and to the south, at the extremity of James's Bay, Albany Fort on the western, and East Main Fort on the eastern or Labrador side. The trade of these forts consists entirely in the collection of furs, in search of which their agents are sent in every direction, almost to the Arctic Ocean on one side, and the Pacific on the other. The furs exported in 1832 amounted to 4328 skins of the beaver and otter; 3451 of the bear and buffalo; 6822 of the fox and fisher; 45,453 of the fur cat and marten; 7686 of the minx; 331,192 of the musk rat; 236 of the racoon; 1718 of the wolverine badger; 5938 of the wolf; value about 110,000*l*.

The country to the south-west from Hudson's Bay, and bounded on the south by Canada, is commonly called New South Wales. It is a watery and swampy region, yet it contains many fertile spots, under a climate which by no means precludes luxuriant vegetation; so that, when Canada is fully colonised, it is very probable that the range of settlement may be extended to this district. It contains the large lakes of Deer and Wollaston, and the small ones of Methye, Buffalo, and Isle à la Crosse; on the last three of which there are stations, to which the traders ascend in canoes. On Albany River, also, there are Osnaburg House, Gloucester House, and Henley.

Lake Winnipeg, with the region to the west, whose waters flow into it, forms an extensive division of native America. This lake, to which the old travellers gave the name of Assiniboins, is of a winding form, about 280 miles long, and from 80 to 15 broad. It receives numerous and large streams from almost every point of the compass, and enjoys thus a remarkable extent of canoe navigation. One shore exhibits variegated hills with wide and fertile prairies; the other, a grand but desolate scene of naked rock. From the south, it receives the Winnipeg river, whose falls, or rather cataracts, have a peculiarly wild and sublime character, from the rapidity and immense volume of the waters, the various forms of the cascades, and the dark granite and primitive rocks through which they dash. The upper part of this river expands into the Lake of the Woods, about 300 miles in circumference. The scenery is very wild and romantic, the shores being bordered by precipices crowned with dense foliage, and the surface studded with countless islands. The country is, however, so bleak and rugged as to afford no support, and only a solitary bear or moose-deer, or a half-starved family of savages, is occasionally met with.

The country west and south-west of the Winnipeg consists of an extensive plain in many places fertile, yet still almost exclusively occupied by wild animals and savages. Large rivers flow through it, the two Saskatchawans, the Assiniboins, and the Red River, which rises nearly in the same quarter as the Mississippi. On these rivers the Hudson's Bay Fur Company have a considerable number of trading houses, of which the principal are Cumberland, Chesterfield, and Marlborough. In a fertile territory, with a fine climate, along the Red River, Lord Selkirk formed settlements, to which he gave the names of Pembina and Fort Douglas. He purchased from the Hudson's Bay Company a territory of 116,000 acres, and transported thither a colony of various nations, chiefly Dutch and German. The soil has been found very productive; but the great distance from a market, being 2800 miles from New Orleans, and 1900 from Buffalo, must long prevent it from rising to great importance. It has suffered severely from contests with the Indians, fomented by the jealousy of the North-west Company. Moreover, in consequence of the recent settlement of the boundary line with the United States, half of it has been included within their territory.

The regions extending to the north of those now described, and bounded by the Arctic Ocean, are scarcely known, unless in the lines traced by the recent expeditions of discovery; yet from these we can form a tolerably correct idea of their general outline. The northern boundaries of Hudson's Bay were fully ascertained by the second expedition of Captain Parry. That expanse appears more properly a sea, having a communication not with the Atlantic only, but with the Arctic Ocean, by the Strait of the Fury and Hecla. The north-eastern extremity of America forms here what is called Melville Peninsula, the eastern coast of which is washed by the Fox Channel, the part of Hudson's Bay that extends north from Southampton Island. That island is separated from the continent by a long narrow channel, called, since Middleton's time, the Frozen Strait, which is crowded and the navigation encumbered by a labyrinth of islets. The climate is exceedingly rigorous, beyond what might be expected in a latitude under 70°. The seas are covered with an unbroken sheet of ice, unless for three or four months of summer, during which time also icy fragments are tossing about, and the bays and straits are still encumbered with them. From the accumulation of these in the Strait of the Fury and Hecla, the attempt repeatedly made by Captain Parry to penetrate into the Arctic Ocean was completely baffled. When spring melts the snows, the country is traversed by impetuous streams and torrents. One considerable river, called the Barrow, descends in a most magnificent fall amid finely broken rocks, about ninety feet perpendicular. Yet the ground here and in other quarters is covered, during the short summer, with a rich vegetation. Almost the only land animals which endure the rigour of winter are the fox, the wolf, and the musk ox; the deer take their flight into milder climates. The shores, however, are crowded with that huge amphibious animal the walrus, in herds often of 200 or 300. Only a few scattered families of Esquimaux wander along the shores and islands, passing often over the ice from one to the other. They are on the whole peaceable and friendly, and display no small degree of industry, and even ingenuity, in providing for their wants, and fencing against the rigour of the climate. Their food consists entirely of wild animals whom they have snared or taken, and in these operations they display both art and courage. When they have thus laid in a stock of provisions, they indulge most enormously, bringing on themselves the distresses of repletion, soon followed by those of famine. The skins of captured animals, particularly deer, skilfully fitted to the shape, afford rich and warm clothing sufficient to defend them against the extreme cold. Their summer habitations are tents framed of the skins of deer, with the bones of large animals serving as posts; but the winter houses are most singularly constructed without any other material except snow. This substance, when duly hardened by the first cold of winter, is cut into slabs, which are put together so skilfully as to form structures of a conical shape, that remain durable till melted by the heat of the following summer. Each apartment is accommodated with a lamp fed with the blubber of the walrus or seal; and which serves at once for light, heat, and cookery. It preserves immediately around it a temperature of 38°; but on the bench round the wall, where the inmates sit and sleep, it does not exceed 23°: and they are preserved from the cold only by large quantities of clothing.

Captain Ross, in his late gallant and adventurous voyage, explored a large extent of the northern coast of America, and found it distinguished by several remarkable and important features. This coast, commencing in about lat. 68° N. and lon. 93° W., opposite the north-western extremity of Melville peninsula, narrows into an isthmus, not more than fifteen miles broad, two-thirds of which space is occupied by a chain of fresh-water lakes. The land then extends on each side, enclosing two spacious gulfs, called the East and West Seas. It then continues to stretch northward, till it forms a very extensive peninsula, reaching not less than 300 miles in each direction. The eastern coast, partly discovered by Captain Parry in his third voyage, has been completely surveyed by Captain Ross. It is much broken by deep inlets and rocky islands, encumbered with ice, and of dangerous navigation; but its south-easter 1 coast contains three secure harbours, Felix, Victory, and Sheriff's. The northern coast was seen by Captain Parry in his first voyage, without his landing upon it; and about 80 miles of the north-western coast were explored by Commander Ross: but the north-western boundaries are yet unknown. The country, as far north as 72°, is inhabited, and Captain Ross had communication with a very interesting tribe of natives, who had never before seen any European. This peninsula, with the isthmus and the territory along the newly-explored coast, were named by the discoverer *Boothia*, after the individual who had chiefly enabled him to equip the expedition. Commander Ross also sailed westward along the American coast to lon. 99° W., lat. 70° N., where he was only 150 miles from the nearest known point of Cape Turnagain. In a subsequent expedition Captain Back descended from Slave Lake down a large river called Thleweecho, which he traced to the sea in lat. 67° N., lon. 94° 30′ W., after a course of 620 miles, broken by no less than eighty-three falls, cascades, and rapids. From the accounts he received from the Esquimaux, it appears that the coast here trends to the south, forming a large gulf between the mouth of the Thleweecho and Melville peninsula, the western coast of which has not been examined. The appearance of the driftwood also led Captain Back to the conclusion that there is a passage from this gulf into the Arctic Ocean to the south of the isthmus examined by Ross, in which case the Boothia of that voyager, instead of being the north-eastern termination of the continent, is an island.

Another line of discovery was traced by Hearne, under a commission by the Hudson's Bay Company, from Fort Churchill to the mouth of the Coppermine River. It consisted of an extensive plain diversified by a chain of comparatively small lakes, to which he gave the names of Cossed, Snowbird, Pike, Peshew, and Cogead. The natives are of Indian race, much ruder than the Esquimaux, with whom they wage a most cruel warfare. They subsist solely by hunting, and proceed on the usual system of savages, devouring an enormous quantity of food when it is abundant, and thus exposing themselves to intervals of cruel famine. The severest labour, and especially that of carrying heavy burdens on their long journeys, is devolved on the wives, who are supplied also with very scanty fare. As they are thus a source of wealth, the husband anxiously increases the number, and this he attains by exertions of bodily strength, for whoever can overcome another in wrestling, may at once seize on his wife; and stout wrestlers thus sometimes accumulate five or six. At the end of the long northern plain is a ridge of stony mountains of difficult ascent, beyond which is the considerable stream of the Coppermine River flowing into the Northern Ocean. The mine, however, from which it takes its name having probably been exhausted, affords now only a very scanty supply of the metal.

Captain Franklin afterwards, by another route, descended the Coppermine River, and explored above six degrees of the coast to the eastward. His career terminated at Cape Turnagain, about 150 miles westward of the farthest point explored by Commander Ross. That nearest the river is well covered with vegetation; but all the rest exhibits the most dreary and inhospitable aspect, being composed only of a series of trap rocks which cover with their débris the intervening valleys. It is broken into deep gulfs, to the principal of which were given the names of Coronation, Bathurst, and Melville. Along the coast, with a narrow channel intervening, extend a range of rocky and barren islands, the principal of which, after eminent British characters, were named Berens, Moore, Lawford, Home, Jameson, Goulburn, Elliot, and Cockburn. The whole country, for a considerable distance inland, as was fatally experienced by Captain Franklin, is of the most dreary character, affording support only to a few arctic animals, and nothing which can serve as human food, except a species of lichen called *tripe de roche*, which yields only a scanty and miserable nutriment.

Farther to the west, a chain of large lakes, receiving numerous rivers, reaches in an oblique line from the Winnipeg to the Northern Ocean. The first is the Athabasca, Athapescow, or Lake of the Hills; an elongated body of water, reaching from west to east, 200 miles in length by 16 or 18 in breadth. Its northern shores consist of lofty primitive rock, while the opposite bank is mostly either alluvial or sandy. The country between Lakes Winnipeg and Athabasca is occupied by the Cree or Knistineaux Indians, a tribe now reduced to about 500, who wander over a region of about 20,000 square miles. The influence of the English has put an end to internal war; but it has introduced a habit, perhaps more baneful, the inordinate use of spirits. For this they exchange all the furs which they are able to collect; and whenever they have thus obtained a quantity of rum, a scene of continued intoxication ensues, till it is consumed. The purchaser, however, still manifests the thoughtless generosity of the savage character, by sharing it liberally with his companions, only assuming, while he deals it out, an air of superiority, and indulging in extravagant boasts: this people continue also, unless under strong temptation, tolerably honest. The females are by no means so hardly treated as among the more easterly tribes: though not admitted to eat with their lords, they are only subjected to the ordinary labours of their sex. Their conduct, however, is not always blameless, and their frailties are only punished by a hearty beating; while the numerous race of half-breeds prove an extensive irregular connexion with Europeans. They have a singularly complex mythology, and are much imposed upon by an artful race of conjurers. The Stone Indians, who inhabit to the west of Lake Winnipeg, are a taller and a handsomer race, of a bolder and fiercer character. They maintain the original creed, that all animals, being created for the use of man, ought to be equally shared among all; and this creed they take every opportunity of enforcing. The European traders, whose views are very different, are thus often brought into serious collision with their rude neighbours. It is remarkable that on this level plain the people are subject to goîtres, the scourge of alpine regions; a circumstance which favours the belief that this cruel malady is caused by calcareous impregnations, which abound in many of the rivulets.

On the north-western extremity of Athabasca the Hudson's Bay Company have erected Fort Chepewyan, so named from the Indians who inhabit the neighbouring country. It serves as a receptacle for the furs which are collected in considerable quantity from this race, who are not supposed to exceed 240 in number. Their appearance is singular, with broad faces and projecting cheek-bones; they are persevering incorrigible beggars, yet tolerably honest, and so deeply imbued with national pride, that, while they give to other nations their proper names, they call themselves, by way of eminence, "the people." Great Slave Lake and Great Bear Lake form the termination of this vast northern chain. The former being 250 miles long by an average breadth of 50, is the largest of all the northern lakes, and only surpassed in America by Lakes Superior and Huron. Its northern shore is skirted by well-wooded hills, rising gently from the margin of the water; and above which some rocky peaks appear. Fort Resolution has been erected on its southern, and Fort Providence on a deep bay of its northern shore. The Ungigah or Peace River, having received the Athabasca soon after it issues from the lake of that name, flows into Slave Lake. Thence it emerges under the name of Mackenzie River, and pursues a broad and majestic course to the Arctic Ocean, which it reaches in about 69° north lat. Great Bear Lake is not upon but to the east of it, and connected by the channel of Great Bear Lake River. Bear Lake may be about 200 miles in each direction, but it is of so irregular a form, and so deeply indented by large peninsulas, that it does not cover nearly the same surface as Slave Lake. Lying between 65° and 67°, it has an entirely changed aspect and climate; and displays all the rigours of an arctic region. The ground is clothed only with stunted firs, and traversed by numerous herds of reindeer. The Copper, the Hare, and the Dog-ribbed Indians are the tribes by whom this quarter is frequented. On the whole, they much resemble the Chepewyans, but are of a more amiable and friendly disposition. Their humanity and faithful attachment were experienced by the recent travellers on occasions of extreme distress. Fort Franklin on Great Bear Lake, and Fort Enterprise on Point Lake, which lies to the eastward, have acquired celebrity as places of preparation and of refuge before and after the perilous voyages performed along the shores of the Polar Sea.

The coast of the Arctic Ocean which bounds America, after being unknown for so many ages, has been recently explored for the space of 35 degrees of longitude westward from the mouth of the Coppermine River. The first portion, surveyed by Dr. Richardson, extends between that and the Mackenzie River, and comprises 20 degrees. This coast stretches in a comparatively uniform line from east to west, broken only by two deep bays, to which are given the names of Liverpool and Franklin; while towards its eastern extremity there extends, parallel to the coast, a long line of insular territory, which is called Wollaston Land. The shore for a great extent is bordered by bold and rugged, though not lofty cliffs, one of which is singularly perforated, while elsewhere a range appeared constantly on fire. This last phenomenon is produced by the structure of the rocks, consisting of bituminous alum shale, the sulphur contained in which has a chemical action producing a constant ignition, whence arises the formation of the salt called alum, of which this may be considered as a great natural manufactory. Along the coast are Esquimaux villages in considerable numbers; and they are, on the whole, better constructed, and show a greater progress in the arts of life, than is usual among this people. When the surprise occasioned by the appearance of strangers was over, they began to traffic with eagerness; but they generally showed a disposition to obtain goods if possible by theft rather than by purchase. Captain Franklin, indeed, at the mouth of the Mackenzie, was attacked by a numerous party with such fury, that his whole equipment had very nearly fallen into their hands.

The coast westward of the Mackenzie River extends also in an almost direct line, declining gradually to the northwards. It is broken only by two not very deep bays, called Beaufort and Camden, and diversified by a number of small islands. Navigation, however, is rendered gloomy and difficult by the masses of ice, either floating or fixed, which, even in the depth of summer, encumber every part of the coast. The effect is increased by the deep and dense fogs in which the atmosphere is very generally involved. They are supposed to arise from the copious vapours exhaled by the heat of the sun, and prevented from dispersing by the mountain range which closely borders the coast. This range consists of the termination of the Rocky mountains, which, after so long a course across the continent from south to north, take now a westerly direction, and fall into the Arctic Ocean. The explorers gave to successive parts of it the names of the Buckland Chain, the British Chain, and to one which occurred after passing the Russian frontier, the name of Count Romanzoff, as an eminent patron of discovery. They do not, however, rise into those steep and lofty cliffs which form the western boundary of the United States. Mount Conybeare, a conspicuous peak, was found to be only 800 feet high; and though the British Chain was more elevated, there seems no room to think that it much exceeds 2000 feet. The small bands of Esquimaux met here by Captain Franklin required to be cautiously dealt with, though they showed a peculiar ignorance in regard to every thing European. Taking hold of the English coats, they asked of what animals these were the skins; they fastened fish-hooks and awls as ornaments to the nose, and stuck needles, with the same view, into various parts of their persons. Farther west, however, the natives were found to be possessed of beads and knives, not of British manufacture; which had, it was stated, been brought by Esquimaux from the westward, and received by them from *kabloonas*, or white men; these are, with great probability, conjectured to be the Russians. In fact, the expedition had come within the limits of that territory which had, by treaty, been assigned as Russian.

Subsect. 2.—*Territories claimed by Russia.*

By a convention concluded in 1825, the 141st degree of longitude was fixed as the limit between British and Russian America.* This line passed through regions then equally unknown to both nations; and the partial exploration of the Russian portion has since been made not by Russia but by Britain. The expedition of Captain Franklin passed this limit by about nine degrees; in consideration of which, he assigned the name of Count Romanzoff to a part of the Rocky chain. Thence an unknown interval of nine degrees occurs, terminating at Point Barrow; and the discovery from thence to the western limit of America at Behring's Strait has been made almost exclusively, first by Cook, and more recently by Beechey. The boat sent by this last navigator reached Point Barrow, in 71°, the most northerly point of America yet discovered or believed to exist. The cold was here so intense, that the boat was frozen in before the end of August, and it was necessary to cut through a quarter of a mile of ice, in order to liberate her. The tribe of Esquimaux here are peaceable and friendly; but at Cape Smyth, to the westward, they are daring and thievish. The point which Captain Cook had named Icy Cape, and where his progress had been arrested, was found by Captain Beechy quite free from ice; it was low and filled with large lakes, so near the sea that a boat could easily be dragged over into them. The coast, in proceeding south-westward, forms Cape Lisburn, composed of low hills of rounded sandstone, and Cape Beaufort, presenting cliffs of rugged limestone and flint. The natives here were good-humoured and friendly. About Point Hope and Cape Thomson, the coast is occupied by a tribe of Esquimaux, diminutive and extremely poor, yet merry and hospitable. The rocks composing Cape Mulgrave were found not to face the sea, as Cook had supposed, in viewing them at a distance, but to be somewhat inland, and the interval filled, as in other parts of the coast, by numerous small lakes. The natives are taller than the other Esquimaux, but appeared never before the arrival of Captain Beechey to have seen Europeans: this was evident from the alarm which they showed on seeing a gun discharged and a bird fall. They were extremely courteous, presenting to the English, as dainties, the entrails of a seal and coagulated blood, which they were much disappointed to find not at all relished. Kotzebue's Sound, so named from the Russian navigator who discovered it, is a spacious expanse, which excited at first much interest, from the hope of its affording a passage eastward across the continent; but careful examination soon proved it to be an enclosed gulf. The natives on being approached raised at first loud cries of alarm and distrust; yet were not long of meeting the friendly advances of the Russians. They showed themselves initiated into the mysteries of smoking, which they had learned from the Tchutchi; but had never seen a pair of scissors, which were passed with wonder from hand to hand, and applied successively to the head of each of the party. The Esquimaux, in short, were found here, as in most other places, an ugly, broad-faced, dirty, but merry and good-humoured race, not devoid of curiosity and intelligence.

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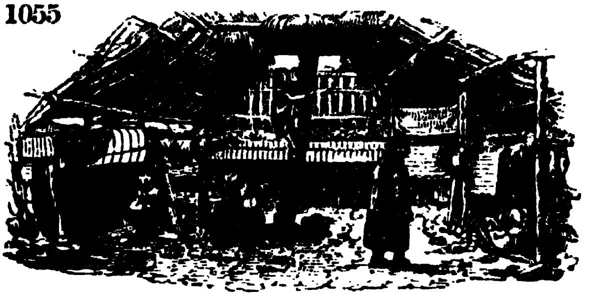
* By the terms of this convention, the boundary line, beginning at the southernmost point of Prince of Wales Island, in 54° 40′ N. lat., runs northwardly along the coast, following the summit of the littoral mountains to the intersection with the 141st degree of W. long., which line forms the limit of the British and Russian territories, thence to the Arctic Ocean. If the coast mountains are more than ten leagues from the ocean, then the frontier shall be formed by a line parallel to the coast, at that distance from the same. Prince of Wales Island, and the other islands to the north of it, belong to Russia.

The shore continues low, flat, and well-peopled, till its westerly direction terminates at Cape Prince of Wales, a lofty peaked hill, forming the western limit of America, and which is separated by Behring's Strait, fifty-two miles broad, from the Eastern Cape of Asia, a bold mountainous promontory, covered with snow in the midst of summer. The navigator who sails through the middle of the strait can distinctly view at once these grand boundaries of the two continents. Beyond Cape Prince of Wales, the American coast stretches south by east in an almost continued line, broken only by the deep inlets of Norton Sound and Bristol Bay. It then shoots out into the long narrow promontory of Alashka, which reaches westward almost as far as Cape Prince of Wales, beyond which the coast bends very rapidly to the eastward. This region, which has been very imperfectly explored, is diversified by hills of moderate elevation, interspersed by valleys, which in summer display a rich verdure. It is occupied by the Tchutchi and by tribes called the Kitegnes and the Konaigues. The Russians have a small fort, called Alexandrovskaia, in the interior of Bristol Bay. The peninsula of Alashka is traversed by two lofty mountains, one of which is volcanic. Near the American coast, and considered till lately as forming part of it, is Nunivak, a considerable island; while westward from Norton Sound, and belonging rather to Asia, is the larger one called St. Lawrence, or Clerke. Both are inhabited, but only by native tribes. In the Sea of Behring are three smaller islands, St. Paul, St. George, and Sea Otter, on the first two of which the Russians have formed fishing establishments. Even in the centre of the strait are found three islets, called, by Beechey, Ratmanoff, Krusenstern and Fairway, the last on account of the safe passage afforded between it and the American coast.

The Aleutian Islands form a long and numerous group, extending from the peninsula westward to Kamtchatka. They appear to be a continuation of the lofty volcanic ranges which traverse these opposite regions of the two continents. From almost every island, steep and lofty peaks arise; and from many, volcanic fire is discharged. In 1795, an island was thrown up by an eruption from beneath the sea, which continued to increase, till in 1807 it measured twenty miles in circuit. The rugged surface of these islands is ill fitted for culture, yet the interior valleys display considerable richness of vegetation. But the subsistence of the inhabitants and the importance of the settlements depend entirely on the vast shoals of fish and of amphibious animals with which the surrounding seas are replenished. The flesh of the seal affords the chief supply of food; while the skins of the sea otter form the most valuable articles of commerce. These islands are inhabited by a remarkable race, sharing, in some degree, the features and aspect of the Mongols and Esquimaux. Considered as savages, they are mild in their manners and deportment, and display a considerable degree of industry and ingenuity. They dwell in large subterraneous mansions (*fig.* 1055.) or rather villages, partitioned into numerous apartments, and containing from 50 to 100, or even 150, inhabitants. These abodes, covered with turf, are almost on a level with the surrounding country, from which they are scarcely to be distinguished; so that when two of Captain Meares's officers were walking over a field, the ground suddenly sank beneath them, and they found themselves, to the surprise and alarm of both parties, in the midst of a numerous family busied in various domestic occupations. The Russians, who have completely established themselves in these islands, are charged by Krusenstern with much cruelty and oppression. They divide these islands into

1055



Subterraneous Mansion.

four groups:—1. The Aleutians properly so called, of which the most populous is Attou; but Behring, though uninhabited, is the most extensive, and is noted for the death of the celebrated navigator of that name, who was obliged to winter there. Copper Island contains a supply of that metal, from which little or no benefit has yet been derived. 2. The Andreanousky Islands, Tanaga, Kanaga, Atchy, &c., remarkable for the many volcanoes which they contain. 3. Rat's Islands, a small group, of which Kiska is the principal. 4. The Fox Islands, the most populous and important of the groups. The chief are Oonalashka and Oonimak, in which last the Russians have a small garrison and a naval depôt.

From the peninsula of Alashka, the wide range of coast claimed by Russia stretches west by south about 30° of longitude and 5° of latitude, till it touches on that which is claimed by the United States. This extended shore bears in general a bold and awful aspect; bordered with mountainous steeps covered with dense primeval forests, and wholly uncultivated. Mounts St. Elias and Fairweather are respectively 17,000 and 15,000 feet high, and form the most elevated peaks in the northern part of America. Yet, though the spade or the hoe is nowhere employed upon this savage soil, it yields spontaneously a profusion of delicate berries, and the neighbouring seas swarm with huge fish, whose coarse oleaginous substance is suited to the palates of the rude inhabitants, while their skins supply at once warm and beautiful clothing. It is by no means, therefore, a desert coast, but is bordered by populous villages, the inhabitants of which have made a certain progress, if not in civilisation, at least in the arts.

This coast is broken in a remarkable degree by bays, deep sounds, and long islands, connected, by narrow channels, with the continent and with each other. At the north-west extremity is the Island of Kodiak, about sixty miles long, which with the smaller one of Atognak is separated from the continent by the Straits of Cheligoff. The natives are robust, active, and well skilled in all the arts connected with fishery. Their boats, almost entirely covered with leather, display great ingenuity in their construction. The Russians long made the port of St. Paul in this island the chief seat of their trade with north-western America; and, finding the natives extremely serviceable, have removed great numbers of them to the settlements formed along the coast.

To the north of Kodiak is a long inlet, which receives the name of Cook, by whom it was explored; and a little beyond is Prince William's Sound, the head of which, almost touching that of the inlet, encloses a large peninsula. The inhabitants of this and the neighbouring districts are a peculiar race (*figs.* 1056, 1057.), square, stout, with large heads, broad flat faces, and hooked noses. They are clothed in long frocks or robes of the skins of sea and land animals, usually with the hair outwards; and they have their noses and upper lips perforated, and uncouth ornaments stuck into them. The sound is described by Vancouver as containing numerous harbours, but all rendered more or less unsafe by concealed rocks or shoals. The Russians have Roda, a small factory on the western side of Cook's Inlet, and Fort Alexander, a larger one at its head, within the peninsula.

1056

Man of Prince William's Sound.

1057

Woman of Prince William's Sound.

The coast from Prince William's Sound extends in an almost continued line south-east, with only the small opening of Admiralty Bay. It is, however, very bold and lofty, distinguished by the colossal peaks of Elias and Fairweather. The Russians have here a considerable factory, called Yakouat.

At the termination of this territory commences a numerous archipelago of large islands extending in front of the coast. To the principal ones have been given the names of George III., Prince of Wales, Duke of York, and Admiralty. Each of these islands has smaller ones near it, sometimes considered as forming with it a separate group or archipelago. Through the labyrinth of winding channels formed by these numerous islands, Vancouver made a most laborious search, in hopes of finding among them the long sought-for passage into Hudson's Bay or the Atlantic; but he finally ascertained that it was not to be looked for in this quarter of America. The Russians, on George III.'s Isle, which they call Baranoff, have erected New Archangel, which they make the capital of all their settlements in America. It is only, however, a large village of about 1000 inhabitants; and not only the private houses, but the fortifications and public buildings, are constructed entirely of wood, though neat and well kept. The management of the trade at this and the other posts has been injudiciously vested by the Russian government in an exclusive company resident at Irkutsk. The grand object of their trade is to collect the skins of the sea otter for the market of Canton, where they are in very extensive demand. Previous to 1780, a single skin was known to bring from 50 to 100 piastres. The activity, however, with which the tradè was soon after prosecuted, brought so large a supply, that in 1790, the price had fallen to 15 piastres, and it has since been constantly on the decline. Chabelski, a Russian traveller, quoted by M. Balbi, estimates the annual value of the furs drawn by Russia from her North American possessions at 40,000*l.* It may be observed, that only the coast here is held as belonging to Russia; the interior territory, under the titles of New Norfolk and New Cornwall, has been adjudged to Britain, by whom, however, it is scarcely at all known or occupied.

In connection with the other Russian settlements, we may mention Bodega, on the coast of New California, some miles north of San Francisco. Though this coast belongs indisputably to Mexico, yet that government seems not to have obstructed Russia in placing this station upon its unoccupied boundary; and though it be small, and destitute of a good harbour, it affords the means of carrying on a considerable trade with California.

Subsect. 3.—*Territory claimed by the United States.*

The region extending westward from the Rocky Mountains to the Pacific and lying between 42° and 54° of north latitude, generally known by the name of Columbia or Oregon, is claimed by the United States and Great Britain. The former rest their claim in priority of discovery and exploration. The Columbia was first discovered and entered by the American ship Columbia, under the command of Capt. Gray, in 1792, and, in 1805, the expedition sent over the Rocky Mountains by the United States under Lewis and Clarke, descended the same river from the head of some of its main branches to the sea. By a convention between the United States and Russia in 1824, it was stipulated that the mutual boundary of the contracting parties should be in 54° 40′ N. lat.; and by the treaty between the United States and Spain, in 1820, the boundary between the Spanish-American and the Anglo-American territories is fixed at the parallel of 42°. Great Britain, however, claims the whole or the larger part of the region thus abandoned by the Spanish and Russian governments, and the only European establishments at present within its borders, are the posts of the Hudson's Bay Fur Company.

Besides the great eastern boundary of the Rocky Mountains, an intermediate range of mountains crosses it from south to north, which seems to be a prolongation of the Californian Mountains. This coast chain is from 100 to 150 miles from the sea, and attains in some parts a considerable elevation, but our knowledge of its general course and character is quite imperfect. Several other less extensive ranges traverse the country in different directions, and much of the surface is rugged. On the south-east, however, between the coast chain and the Rocky Mountains, the great Californian desert already described, occupies a large tract about the upper course of the Louis, but it seems to lose here somewhat of its horrors, and is occasionally interrupted by considerable streams and fertile patches. Much of the region above the coast chain is unwooded until we begin to approach the base of the great eastern mountains; but below that point are fine forests of noble trees, some of which attain a truly enormous size. Of these, the most remarkable is a species of pine described by Lewis and Clarke. This most princely of the genus, perhaps the finest specimen of American vegetation, reaches the amazing height of from 250 to 300 feet, with a trunk twenty-five to fifty feet in circumference; its cones are from twelve to eighteen inches long, measuring ten inches round the thickest part. The trunk is remarkably straight, and destitute of branches till within a short space of the top, which forms almost a perfect umbel. The wood is of a fine quality, and yields a large portion of resin. Growing trees of this species, that have been partly burned by the natives, to save the trouble of cutting other fuel, produce a substance resembling sugar, used in seasoning dishes; the seeds are gathered in autumn, pounded, and baked into a sort of cake, which is considered a luxury. The climate, as is usual on the western sides of continents, is about seven degrees milder than that of the eastern coasts under the same latitude.

The leading geographical feature in this territory is the river Columbia or Oregon. It rises amid the most rugged steeps of the Rocky Mountains in about latitude 51°, and takes a south-west course to the junction of Lewis' river from the south-east, from which point it pursues a pretty direct course to the sea. The principal tributaries of the northern branch are Clarke's river, which has a course of about 600 miles from the mountains, and Oakinagan which comes in from the west. Lewis' river, also called Saptin, may be considered as the southern branch; it has a rapid, broken course of about 1000 miles, and at its confluence with the Columbia is 600 yards wide. The latter river is here, at the distance of 400 miles from the sea, 1000 yards wide, and is much broken by rapids both above and below. About 150 miles below are the Great Falls, where the river has a descent of 58 feet, and 90 miles lower down, it breaks through the coast chain of mountains; at this point its channel is compressed into a narrow gorge only 150 yards wide, and its waters are hurried with great violence over its rocky bed. At the foot of these rapids, 170 miles from the sea, it meets the tide, and thence to the ocean its width is generally from two to five miles, and rarely less than one. The navigation is somewhat obstructed by sand-banks, which are dry at low water, and by snags and planters, but vessels of 300 tons may ascend

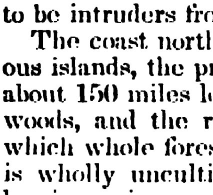
100 miles from its mouth. The other principal river of this region is Frazer's river, also a navigable stream; it has a course of about 800 miles, and runs into Fuca's Strait, which separates Quadra and Vancouver's Island from the continent; the Hudson's Bay Company have several posts on its waters.

The tribes inhabiting the coast near the mouth of the Columbia, of which the principal are the Clatsops, the Chinnooks, the Chillamuks, Cathlamahs and Skilluts, exist in a very rude state of society. They do not cultivate the ground, but derive their subsistence solely from hunting and from fishing, which they practise with considerable dexterity in boats: these, though composed only of a single tree, will contain thirty or even fifty persons. The skins and furs which they collect are exchanged with European vessels for bad guns, copper kettles, knives, tobacco, and, above all, white and blue beads, which form their most valued ornaments. These articles afford materials for a trade with the upper nations, whom they meet once a year at the falls of the Columbia, and from whom they purchase edible roots, salmon, furs, &c. These tribes, however rude, studiously seek to embellish their persons, but in a most fantastic and preposterous manner, by keeping the forehead compressed in infancy with an instrument which, if successful, causes a straight line to run from the crown of the head to the top of the nose. With this form, and with a thick coating of grease and filth, the Clatsop young female becomes one of the most hideous objects in existence. Yet when adorned with bears' claws, copper bracelets, white and blue beads, she is regarded as an object of attraction; and it is painful to add, that the men carry on the most unblushing traffic with their wives and daughters, whom they offer as the medium of trade, the return for presents and services.

East of the coast chain are the Esheloots, Eneshurs, Wallah-Wallahs, Sokulks, Chimnapums, Chopunnish, &c., who seem to resemble each other closely in language, customs, and character; they are more remotely, if at all, connected with the lower tribes. Their chief employment is taking salmon, in which their rivers abound. The name of Flatheads has been given to all these tribes, but the custom from which it is derived flourishes in full vigour only among the tribes below the mountains. Immediately after birth, a bandage is fixed to the head of the infant, where it is kept about a year, and has the effect to flatten the head permanently. This practice is universal among the lower tribes, but above the falls is restricted to the females. The great south-eastern plain is inhabited by the Shoshonees, who are entirely different from the other nations west of the mountains, and appear to be intruders from the valley of the Mississippi.

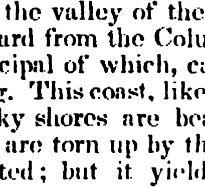
The coast northward from the Columbia, like that still farther north, is faced by numerous islands, the principal of which, called by the joint names of Quadra and Vancouver, is about 150 miles long. This coast, like that of the continent, is lofty, crowned with immense woods, and the rocky shores are beaten by the waves of the Pacific with a fury through which whole forests are torn up by the roots, and extended along the shore. The ground is wholly uncultivated; but it yields spontaneously an abundance of the most delicious berries, onions, and other roots. The chief supplies, however, are derived from the ocean, which abounds in an extraordinary degree with fish of every size and species. The smaller kinds serving for food are taken in abundance by merely passing through the water a long rake with pointed teeth: this work is left to the lower ranks; while the chiefs undertake the nobler task of combating the whale, the sea-lion, and the otter, whose skins supply them with rich and beautiful robes. Each tribe inhabits a particular cove, or island, and is ruled by a chief, who maintains a very considerable degree of savage pomp. Wicananish was found by Meares occupying a house or palace, consisting of a huge square apartment, in which his whole household, of 800 persons, sat, ate, and slept. The door-posts and the rafters were supported by gigantic wooden images rudely carved and painted, and the whole apartment was studiously adorned with festoons of human skulls. The royal family occupied a raised platform at one end, on which were placed the chests of treasure and other valuable effects. Their repasts consisted of enormous quantities of blubber, fish oil, and fish soup. The people (*figs.* 1058. and 1059.) have the usual American features, with complexions tolerably fair; but these they studiously disfigure by stripes of red ochre and streams of fish oil, mingled sometimes with a species of glittering black sand. Some of the tribes display extreme ferocity, and on the whole they are suspected of cannibalism, human heads and hands being both displayed as trophies and offered for sale. Yet, when a friendly intercourse was once established, their manners were found peculiarly mild, courteous, and engaging. The subjects of one chief were estimated at 13,000; of another, at 10,000: so that the population of the whole coast must be very considerable.

1058



Man of Nootka Sound.

1059



Woman of Nootka Sound.

The country drained by Frazer's river, is called by the English New Caledonia; it has a severe climate, exceedingly hot in summer, and the mercury falls to 15° in winter; a great portion of the soil is poor, and much of the surface is occupied by small lakes, marshes, and rivulets. The fur-bearing animals, however, are abundant. The principal Indian tribes here are the Tacullies, Atnahs, Chilcotins, Nascotins, Chins, Clinches, &c., some of them resemble the tribes of the coast, but others are allied to the Chippewyan and Beaver Indians of the plains east of the Rocky Mountains.

CHAPTER XI.

BRITISH AMERICA.

The part of America now belonging to Great Britain is an assemblage of vast, ill-defined, and straggling territories, the remnant of that mighty empire of which the great insurrection deprived her. Even in their present dismembered state, however, their extent and capacities might, and probably will, enable them one day to surpass the greatest of the now existing European monarchies.

Sect. I.—*General Outline and Aspect.*

Of the existing British empire in America it would be difficult to determine the precise extent and limits. The base line may be said to be formed by the river St. Lawrence, and the great lakes Ontario, Erie, Huron, and Superior. These, unless at a few points, separate the British territory from the United States; but there is to the south of it one great angle, consisting of Nova Scotia and New Brunswick, which has been withheld from the Atlantic States, and remains attached to Britain. The islands at the mouth of the St. Lawrence,—Cape Breton, Prince Edward Island, Newfoundland, the theatre of the greatest fishery in the world,—are also British, some fishing privileges being allowed to other nations. On the continent, Britain claims the right to occupy the immense space extending from the St. Lawrence to the newly discovered Arctic Ocean. Such an occupation, however, even in a prospective view, is so distant, that to include the whole tract would be clearly premature. We reserve, therefore, for a separate chapter, the regions still held by the native tribes of America. The actual occupation extends along the northern, and, in the lower part of its course, the southern, bank of the St. Lawrence, the northern shores of Lake Ontario, and Lake Erie, and in part the eastern coasts of Lake Huron; it reaches, though only in some instances, thirty or forty miles into the interior. The Company which enjoys the exclusive trade of Hudson's Bay, maintains several forts on its western shore; they have also small forts on the leading lakes and rivers of the interior, called houses, where they are secure against the attack of the Indians scattered over the expanse of these desolate wilds, and can form a store of the articles necessary for the fur trade. Beyond this occupancy they have not attempted to exercise any jurisdiction, nor, as has lately appeared, could a peaceable colony form itself without imminent danger from these rude tenants of the wild.

The climate is very severe, much exceeding what is felt under the same latitude in the old continent. Lower Canada for six and Upper Canada for five months of the year have a mean temperature below the freezing point, and are buried in perpetual snow; yet after that period the sun breaks out with such force, that large crops of the most valuable grain can be raised on the great extent of fertile land of which the territory consists. Upper Canada, from a careful survey made with a view to emigration, has been found particularly valuable; finely watered, clad with immense forests of valuable timber, and containing about ten millions of acres capable of culture. Nova Scotia and New Brunswick are well wooded countries, but less fertile; and though the winters are less severe, the heavy fogs

References to the Map of British America.

UPPER CANADA.
1. Amherstburg
2. Chatham
3. Baldoon
4. London
5. Town Plat
6. Erie
7. Niagara
8. Dundas
9. Ancaster
10. Oxford
11. Etobicoke
12. Toronto (York)
13. Hamilton
14. Thurlow
15. Kingston
16. Elizabeth
17. Bathurst
18. Richmond

LOWER CANADA.
19. Plantagenet
20. Cornwall
21. Montreal
22. Odell
23. Shefford
24. Sherbrooke
25. Grantham
26. William Henry
27. St. Antoine
28. Lavaltrie
29. Trois Rivieres
30. St. Marie
31. Quebec
32. Gentilly
33. St. Nicholas
34. St. Etienne
35. St. Francis
36. St. Thomas
37. St. Joachim
38. St. Jean
39. Granville
40. St. Anne
41. Douglastown
42. Perce
43. Pabos
44. New Carlisle

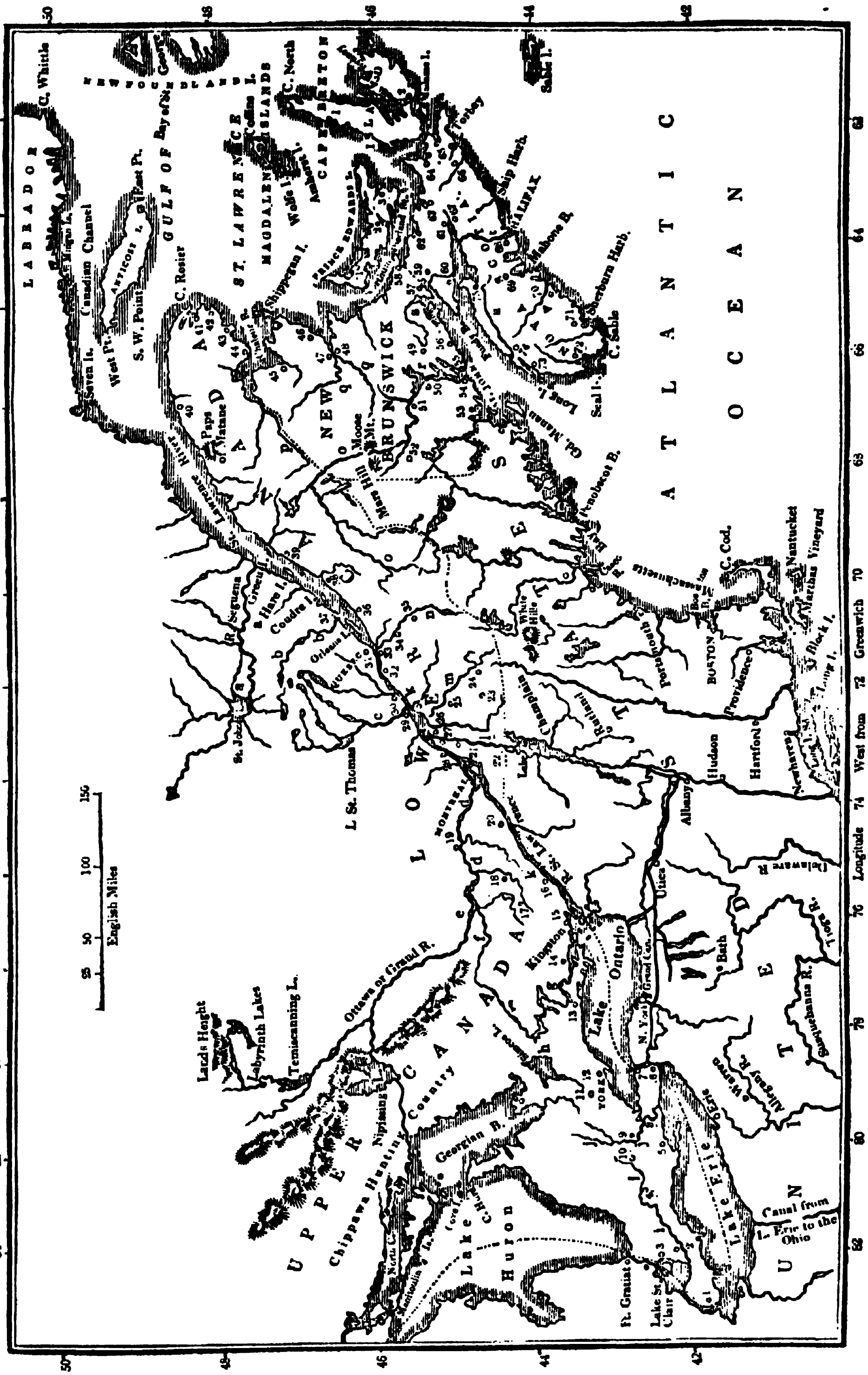
NEW BRUNSWICK.
45. Bathurst
46. Miramichi
47. Newcastle
48. Chatham
49. Sussex Vale
50. Gage Town
51. Fredericton
52. Monument
53. St. Andrew's
54. Carleton
55. St. John
56. Quaco
57. Cumberland Fort
58. Fort Monkton.

NOVA SCOTIA.
59. Amherst
60. Parsborough
61. Londonderry
62. Faningborough
63. Walmsey
64. Dorchester
65. Hinchinbroke
66. Sherbrooke
67. Truro
68. Halifax
69. Chester
70. Liverpool
71. Shelburne
72. Tusket
73. Weymouth
74. Annapolis
75. Cornwallis.

CAPE BRETON ISLAND.
1. Chetecan
2. St. Peter's
3. Sydney.

PRINCE EDWARD ISLAND.
1. Dartmouth
2. Charlotte Town
3. George Town.

Rivers and Lakes.
a Saguenay, R.
b Great River
c River St. Maurice
d Ottawa, or Grand River
e Chaudiere Lake
f Madawasca, R.
g Trent, R.
h Simcoe Lake
j Thames, R.
j Ouse, R.
k St. Lawrence, R.
l Richelieu, R.
m Francis, R.
n Chaudiere, R.
o St. John, R.
p Restigouche, R.
q Main, R.
r Grand Lake
s Petit Condiac, R.
t Shubennacadie, R
u Ferry River
v Liverpool, R.


LABRADOR
C. Whittle
NEWFOUNDLAND
Bay of St. George
Mingan I.
Canadian Channel
Anticosti I.
East Pt.
West Pt.
S. W. Point
Seven Is.
C. Rosier
GULF OF ST. LAWRENCE
MAGDALEN ISLANDS
Wolfe I.
Amherst I.
C. North
CAPE BRETON ISLAND
Sable I.
Torbay
Ship Harb.
HALIFAX
Mahone B.
Sherburn Harb.
C. Sable
Seal I.
Long I.
Gd. Manan
Penobscot B.
Shippegan I.
PRINCE EDWARDS I.
NEW BRUNSWICK
Moose Mt.
Mars Hill
Paps of Matane
River St. Lawrence
R. Seguena
Green I.
B. Hare I.
Coudre I.
Orleans I.
St. John
L. St. Thomas
MONTREAL
R. St. Lawrence
Lake Champlain
White Hills
Rutland
Portsmouth
Massachusetts Bay
BOSTON
C. Cod
Nantucket
Marthas Vineyard
Block I.
Long I.
Providence
Hartford
Newhaven
Hudson
Albany
Utica
Delaware R.
Bath
Tioga R.
Susquehanna R.
Alleghany R.
Kingston
Lake Ontario
N. York Grand Can.
YORK
Lake Erie
Canal from L. Erie to the Ohio
Lake St. Clair
Ft. Gratiot
Lake Huron
Manitoulin Is.
Georgian B.
Chippawa Hunting Country
Nipissing L.
Ottawa or Grand R.
Temiscanning L.
Labyrinth Lakes
Lands Height
LOWER CANADA
UPPER CANADA
ATLANTIC OCEAN
UNITED STATES
English Miles
25 50 100 150
50 48 46 44 42
60 62 64 66 68 70 72 74 76 78 80 82 84
Longitude West from Greenwich

that prevail for a great part of the year are still more disagreeable than the frosts and snows of Canada.

The surface of this extensive region is not very much varied. Two chains of hills cross Canada, each parallel to the St. Lawrence, one at the distance of fifteen or twenty miles, including all its most fertile and productive valleys; the other at about 200 miles' distance, forming the boundary of the province. Some chains also cross the more northern regions; but upon the whole they may be considered as a prolongation of the great level of the Missouri, bounded still on the west by the Rocky Mountains, which reach the farthest extremity of the continent.

The river St. Lawrence is the principal feature of this region, and one of the noblest river channels in the world. It is difficult to say where it begins. It has been held to issue from Lake Superior, a vast body of water, fed by about fifty streams, of which the St. Louis and Grand Portage Rivers are the principal; but, in fact, the lakes are merely connected by short canals, through which the surplus waters of one are poured into the other. These canals bear the local names of St. Clair, Detroit, Niagara, &c. The last is distinguished by its falls, the most magnificent in the world. From Lake Ontario to Montreal the river is broken by a succession of rocks, cataracts, and rapids, which render navigation very dangerous. It is after passing Montreal that it rolls in full grandeur in a deep continuous channel, conveying large ships and rafts down to Quebec. The navigation is blocked up for half the year by the ice, which even in spring encumbers it for some weeks with floating fragments.

The other rivers of Lower Canada are its tributaries. On the north are the Ottawa and the Saguenay, large navigable rivers flowing through a region little known; the former is supposed to have a course of about 1200 miles, but its navigation is much interrupted by rapids; the latter is remarkable for its great depth and width, and is navigable for 90 miles to its falls; for the distance of about 50 miles it has the appearance of a long mountain lake. The St. Maurice is also a considerable stream from the north, and the Montmorency, which falls into the St. Lawrence, is celebrated for its beautiful cataract, which pours a large volume of water over a precipitous ledge. On the south are the St. Francis; the Chaudiere, with a fine cascade rushing down a precipice 100 feet in height; and the Sorelle or Richelieu, the outlet of Lake Champlain.

The Thames, flowing into Lake St. Clair, and the Ouse, are the principal rivers of Upper Canada. The St. John, which rises in Maine, is navigable 80 miles by sea vessels, but its course is much broken by falls and rapids. The Miramichi is the other principal river of New Brunswick.

Lakes, in Canada, are on a greater scale than in any other part of the world; and the united chain forms a vast inland sea of fresh water. The largest of these, and the largest fresh water lake in the world is Lake Superior, which is 420 miles in length by 170 in breadth; having a circuit of 1500 miles, and covering an area of 35,000 square miles. It discharges its waters through the river or strait of St. Mary, 50 miles long, into Lake Huron, which likewise receives those of Lake Michigan. Lake Huron is 280 miles in length, and 90 in breadth, exclusive of the large bay on the north-eastern shore, called Georgian Bay, which is about 80 miles in length by 50 in breadth. An outlet, called the river St. Clair, expands, after a course of 40 miles, into a lake of the same name, 24 miles in length, and 30 in breadth, which again contracts, and enters Lake Erie under the name of the river Detroit, 25 miles in length. Lake Erie, the next link in this great chain, is 270 miles in length by from 25 to 50 in breadth. The river Niagara, 36 miles long, carries its surplus waters, over a perpendicular precipice 165 feet high, into Lake Ontario, which is about 190 miles in length, by 40 in breadth. The surface of Lake Superior is 625 feet above the level of the sea; its medium depth 900 feet; the descent to Lake Huron is by the Sault or Fall of St. Mary 23 feet, and by rapids and the gradual descent of the river, 21 feet, giving 580 feet for the elevation of the surface of Lake Huron, whose depth is equal to that of Lake Superior. Lake Erie is much shallower, not exceeding a mean of 120 feet, and having its surface 560 feet above high water, while Lake Ontario has a depth of 500 feet, and its surface is 330 lower than that of Lake Erie. The waters of these lakes are clear and potable, and they abound with fish, among which are trout, weighing from 75 to 100 pounds, sturgeon, white fish, pike, bass, &c. They are navigable by large vessels, and a great number of steamboats navigate their waters. Lake Simcoe, which is connected with Lake Huron, is already disturbed by the plash of the steamboat. Lake Nipissing is a considerable body of water, which a rapid and broken stream unites with Lake Huron. In the interior, are several smaller lakes, of which the principal is the Lake of the Woods, whose winding shores are 300 miles in circumference. Farther to the north is Lake Winnipeg, 270 miles from north to south, and from eighty to fifteen in the opposite direction. The name signifies muddy, and is descriptive of its waters. There is a water communication with Lake Superior by the rivers Winnipeg and La Pluie.

Sect. II.—*Natural Geography.*

Subsect. 1.—*Geology.*

Canada.—On the south side of the St. Lawrence, from Gaspé to some miles above Point Levi, opposite Quebec, the whole country presents high mountains, valleys, and forests. These mountains appear equally as lofty as any of the Alleghany chain, of which range they form a part. The prevailing rocks are granite, greywacke, clay slate, and transition limestone. The lower islands of the St. Lawrence are mere inequalities of the vast body of granite which occasionally protrudes above the level of the river. The Kamouraska Island, and the Penguins, in particular, exhibit this appearance; and in the forest of Kamouraska huge bodies of granite rise into sharp conical hills, one of which is 500 feet high. At St. Roch the post-road leads for more than a mile under a perpendicular ridge of granite, 300 feet high. The city of Quebec is situated on a promontory, on the north-west side of the St. Lawrence, formed by that river and the St. Charles. The extremity of the headland is called Cape Diamond, whose highest point rises 345 feet above the level of the water. It is composed of gray granite, containing in cavities rock crystals, and a species of dark-coloured clay slate. The north coast of the St. Lawrence, below Quebec, exhibits trap rock, clay slate, and occasionally granite; the latter is considered to prevail in the interior of the country, and particularly as forming the base of the mountains of Labrador, and of the country north of Quebec. Cape Tourment, thirty miles from Quebec, is a round massive mountain of granite, 1000 feet high. As we approach Quebec, a reddish or grayish black clay slate appears as the prevailing rock, and it forms the bed of the St. Lawrence to Kingston and Niagara. Boulders of granite, limestone, sandstone, syenite, trap, and marble, occur in the same extensive region. Above the rapids of Richelieu a flat country prevails, until we reach Queenstown Heights. The greater part of the soil of the lowlands is apparently alluvial; and twenty to fifty-five feet rise of the waters would nearly cover the whole country between the Alleghanies and the highlands of the north. The exceptions to this general rule are the Belœil mountain, the summit of which is about 1000 feet high. The mountain is an abrupt termination of a branch of the Green Mountains, and divides the waters of Lake Champlain from the sources of the rivers St. Francis and Tamasca. The mountain to which Montreal owes its name, the rocks of which appear to be principally trap accompanied by limestone, is another exception. Whenever rapids occur, we find the elevation of the country increasing, and limestone generally accompanies the prevailing rocks. The step of country formed by the limestone ridge, which commences at Queenstown Heights, and which rests upon a bluish clay slate, is elevated about 350 feet above the shores of Lake Ontario; and the upper country, the base of which is limestone, is generally level, until we approach the high lands between Lake Huron and Lake Michigan. The limestone rocks of the Manitoulin Islands, in Lake Huron, contain similar organic remains (those of mountain limestone) to those that occur so abundantly in the limestone rocks which prevail at the base of the island of Anticosti. Along the north coast of Lake Huron and Lake Superior, granite predominates. Indications of volcanic eruptions are said to occur at St. Paul's Bay, and on the mountains north of Quebec. The great earthquake of 1663 is said to have overturned a chain of sandstone mountains 300 miles long, north of the St. Lawrence, and levelled them with the plains.

Canada is considered rich in minerals. Petalite, a rare mineral, was found by Dr. Lyon near York, in Upper Canada; beryl is found at Lake of the Woods; Labrador felspar, at Lake Huron; axinite, Hawkesbury and Ottawa; aventurine, Lake Huron; amethyst, Lakes Superior and Huron; apatite, or phosphate of lime, Fort Wellington; arragonite, Laclina; strontian, in magnificent masses, Erie, Ontario; schorl, St. Lawrence; precious and manganesian garnet, River Moira, Ontario, &c.; carnelian, agate, zeolite, prehnite, fluor spar, barytes, Lake Superior; brown and green coccolite, Montreal and Hull, Ottawa; olivine, augite, Montreal; grenatite, Rainy Lake; anthophyllite, Fort Wellington; marbles and serpentine are common on the north shore of Lake Erie, which exhibits immense beds of gypsum, the principal of which is in Dumfries, and quarried largely for the purposes of agriculture.

Ores.—Iron. Seven kinds of iron ore occur in Canada; viz. magnetic iron ore, specular iron ore, and red iron ore, brown iron ore, bog iron ore, sparry iron ore, or carbonate of iron, and iron pyrites. The magnetic iron ore has been found abundantly, but only in one place, where it is smelted, viz. in the township of Marmora and Belmont, in Upper Canada. *Specular iron ore.*—The only place where it occurs abundantly is close to the mining establishment at Marmora. Red iron ore has been noticed in two or three places, but most abundantly in the vicinity of Henderson's Lake, in the Gannanoqui, where it forms an extensive bed in old red sandstone. Brown iron ore occurs, but in small quantity. Bog iron ore, which is next in abundance to the magnetic iron ore, is found abundantly both in Upper and Lower Canada, particularly behind the two seigniories of Batiscan and Champlain, in Lower Canada. It is the only extensive deposit of this ore which has yet been worked in Lower

Canada, and the furnace at the forges of St. Maurice is entirely supplied by it. Sparry iron ore is found in the immediate vicinity of the works of Marmora, where it is worked chiefly as a flux for the furnace. Iron pyrites, or sulphuret of iron, is found in many places, particularly abundant on an island on the south shore of Drummond Island. Graphite, also known under the names of plumbago, or black lead, which is either pure carbon, or carbon united with a small portion of iron, is found rather abundantly in the township of Houghborough, also at Hull on the Ottawa. Ores of manganese, in small quantity, are mentioned by some authors; and ores of silver are also reported, but on doubtful authority, to have been met with. Traces of copper ore and masses of native copper have been found, but hitherto no native gold has been discovered in either of the Canadas. Ores of antimony are reported to exist in the neighbourhood of St. Paul's Bay, in Lower Canada. Galena, or lead-glance, the common ore of lead, has been found in many places, particularly near Lake Memphremagog, in Lower Canada. Sulphuret of zinc, or zink-blende, occurs in small quantities; and cinnabar, the ore of mercury, although reported to have been met with on the shores of Lakes Erie and Michigan, in the United States, has not been found in the Canadian territories.

NOVA SCOTIA appears to be based on granite, although this rock is almost everywhere covered by other, often more recent, formations, or appears only in boulders on the surface. A transition slate, and greywacke, with marine organic remains, and containing beds of limestone, and very rich beds of iron ore, cover the greater portion of the country: the iron ore is an oxide, sometimes a peroxide, and is often beautifully impressed with organic remains, and sometimes a shell is half moulded in the slate, and the other half adherent to the iron ore, thus proving their contemporaneous formation. The sandstone formation is next in extent after the slate. Part of it is said to correspond with the new red sandstone and keuper formations of other countries; and this part also contains great beds of gypsum, from which the gypsum imported into the United States is derived; grindstones, which also form an important article of commerce between the two countries, are obtained from the same formation; underneath these are beds of black bituminous coal, which are worked, and this valuable mineral is finding its way into the Eastern States, both from the peninsula of Nova Scotia and from the island of Cape Breton, which is separated only by a very narrow strait from the north-eastern mainland. As there is no bituminous coal, in any quantity, hitherto discovered in New England; as the Nova Scotia grindstones, having already a great market in the Atlantic States, will continue to maintain it on account of their excellence and of their being so easily transported by water, notwithstanding the successful introduction of the United States fine-grained mica slate and arenaceous quartz rock for the same purpose; and as the gypsum of Nova Scotia can always be brought to the Atlantic ports cheaper than from the interior of New York and of the Western States; it is therefore probable that these interests will long contribute to a friendly intercourse between the countries. A trap formation abounds in Nova Scotia: although nowhere more than three miles in breadth, and often not even one mile, it stretches continuously 130 miles along the south shore of the Bay of Fundy. It rises into stupendous precipices, and exhibits basaltic and greenstone columns, 300 or 400 feet in height, and thus fixes a barrier to the tides. These tides twice in twenty-four hours rise to the height of seventy feet, and whether ebbing or flowing, rush with great fury along this rocky coast, and into the Bay of Mines and Chignecto Bay and their branches, undermining and tearing away immense masses of rocks, and piling them up along the shores. The minerals embedded in the trap afford a rich harvest to the mineralogist, and probably no known trap district of North America is richer in the beautiful minerals that assist in characterising that formation: thus, among others, the following minerals are mentioned as found in the trap formation:—amethyst, rock crystal, calcedony, agate, chabasie, analcime, loumonite, mesotype, stilbite, calcareous spar, and specular iron ore.

NEW BRUNSWICK.—The geology of this province is imperfectly known. According to Mr. M'Gregor, limestone, greywacke, clay slate, with sandstone, interrupted occasionally by gneiss, trap, and granite, seem to prevail on the southern coast. Among these, however, limestone appears to predominate. Marble of promising quality abounds at Kennebecasis, and, it is said, also in other parts of the country. Coal is plentiful, and iron ore abounds. Graphite, or black lead, has been found, and also copper and manganese ores. Gypsum and grindstone are abundant near Chignecto Basin. Along the shores of this province, facing the Gulf of St. Lawrence and Chaleur Bay, sandstone prevails. Gray sandstone and clay slate seem to predominate, as far as Mr. M'Gregor could observe, along the course of the Miramichi; among which granite, mica, quartz, and iron ore occur. Agates and jaspers are collected in some places. Salt springs also have been observed.

CAPE BRETON.—Mr. M'Gregor says, among the primitive rocks granite prevails in the peninsular country south-east of the Bras d'Or; and it probably forms the nucleus of the highlands between this inlet and the Gulf of St. Lawrence. Syenite, trap, mica slate, clay slate, and occasionally quartz, also appear on the Gulf Coast. Primitive trap, syenite, and clay slate show themselves, together with transition limestone, greywacke, gypsum, and coal, generally, in all parts of the island. The class of secondary rocks appear, however, to be the most extensive; and coal exists in such abundance, that persons unacquainted with geology consider it the predominating formation in the island. Coal, in a field or fields of vast extent, abounds in the south-eastern division of the island, surrounded by carboniferous limestone, new red sandstone, &c. The quality of this coal is well adapted for common fire-places. The extent or quality of the coal-fields north of the Bras d'Or have not been ascertained. Gypsum occurs in great plenty along the shores of the Bras d'Or, at the Gut of Canseau, on the Gulf Coast, and in some other parts of the island. Several salt springs have been discovered, which vary in strength from six to twelve per cent. of salt. Situated, says Mr. Bouchette, in the centre of the best fisheries of North America, and where coal is abundant, the manufacture of salt promises to become hereafter a most valuable source of wealth to the colony. Iron ore abounds everywhere, in the coal district about Lingan, Sydney, &c. and at Cape North and Aspey Bay.

Prince Edward Island.—The soil of this island is fertile; and there is scarcely a stone on the surface that will impede the progress of the plough. There is no limestone nor gypsum, nor has coal yet been discovered, although indications of its presence have been noticed. Red clay, of good quality for bricks, abounds in all parts of the island; and a strong white clay, fit for the potter, is met with, but not in great quantity. A solitary boulder of granite presents itself occasionally to the traveller. The base of this island is a sandstone, which appears to extend under the bed of Northumberland Strait into the northern part of Nova Scotia, and into the eastern division of New Brunswick, until it is lost in its line of contact with the granite base of the Alleghanies, about the river Nipisighit.

Newfoundland.—The only geognostical information we have been able to procure in regard to this island is derived from an "*Account of a Journey across the Island of Newfoundland*," by W. E. Cormack, Esq. published in the 10th volume of the *Edinburgh Philosophical Journal*. This enterprising gentleman, in the beginning of September, 1832, left Smith's Sound, at Random Island, on the east side of the island, accompanied by one Micmac Indian; and, along with two of that tribe, reached St. George's Harbour on the west side of the island in the beginning of November: having thus been the first person to travel across Newfoundland. The first rocks met with were granite and porphyry: these were succeeded by alternations of granite and mica slate, which in their turn were replaced by granite. Granite, syenite, porphyry, mica slate, clay slate, and quartz rock, occur in the district occupied by Melville Lake. In the same district there are several kinds of secondary sandstone, probably belonging to the coal and red sandstone formations. The primitive rocks extend onwards to Gower's Lake. From Gower's Lake, by a series of lakes, to Richardson's Lake, the country is almost entirely composed of primitive rocks; the only indications of secondary formations being in the agate near Gower's Lake, the basalt at Emma's Lake and Jeanette's Lake, and the indication of coal and iron near Stewart's Lake. A serpentine deposit is succeeded by a great tract of granite, gneiss, and quartz, which extends from Jameson's Lake by Bathurst's Lake, Wilson's Lake, King George the Fourth's Lake, to St. George's Harbour, in the Bay of St. George, on the west coast of the island.

About the centre of the island there are several ridges of serpentine, which exhibit this rock in all its beautiful and numerous varieties. The finest kinds occur on the shores of Serpentine Lake, and on Serpentine Mountain and Jameson's Mountain.

The west coast is by far the richest in minerals. There is coal of good quality in St. George's Bay, about eight miles from the sea-coast, up the South Barrasway River. There are several salt springs; one about two miles from the sea-coast, up another Barrasway river, some miles north of that where the coal is found; another a few miles still farther north, up what is called Rattling Brook; and a third at Port-à-Port. There is a strong sulphureous spring close to the sea-shore, about a mile north of the Barrasway River, where the salt spring first mentioned is found. Gypsum and red ochre abound between these rivers and Flat Bay, at the sea-shore; and the former is also found some miles within the country. There is a dark gray-coloured marble found at Bay of Islands; but, from report, in no great quantity near the coast. The soil of St. George's Bay is good, and not so rocky as in most parts of the island. Mr. Cormack, in allusion to the names given by him to the mountains and lakes met with in the course of his adventurous expedition, remarks, "I have used the customary privilege of giving names to the lakes and mountains I met with in this hitherto unexplored route, and these are in compliment to distinguished individuals and private friends. The rocks I collected were examined by Professor Jameson."

Anticosti Island is said to be a mass of limestone abounding in organic remains.

Magdalen Islands are reported to be more or less deeply covered with a sandy soil, resting upon a sandstone which forms the prevailing or only rock in this insular group.

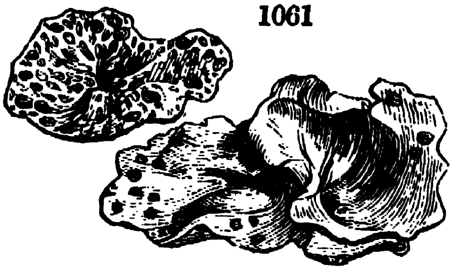
Subsect. 2.—*Botany.*

The botanical features of the more southern and eastern parts of this region are not to be separated from those of the United States, and will be found noticed under that head.

With regard to the west side of the British settlements in North America, "the plants of Upper Canada," says Dr. Richardson, in a letter to us, "extend to the south end of Lake Winnipeg, lat. 50° to 51°, where the Oak, Canada Pine, and several other remarkable vegetables disappear. Then, to the westward of this district, lie the plains of the Saskatchawan, extending to the foot of the Rocky Mountains, to Peace River in a northerly direction, and uniting with the Prairie country of the Missouri to the southward. This district being open, with interspersed clumps of wood only, has a peculiar vegetation, containing several of Nuttall's plants, gathered on the Missouri. It is the Buffalo district. The Rocky Mountains yield alpine plants, and the country to the westward of them produces Mr. Douglas's plants, which are also peculiar. A line drawn from the south end of Lake Winnipeg to the Falls of the Saskatchawan, and from thence to the west end of Great Slave Lake, cuts off a portion of country, bounded to the eastward by Hudson's Bay, to the southward by Upper Canada, and to the northward by Chesterfield Inlet and Great Slave Lake. This district is more or less rocky, abounds in lakes and swamps and rivers, and is thickly wooded. There is little variety in its plants, which are nearly those of Labrador, and it is the district which has more peculiarly borne the name of the Hudson's Bay Lands. To the northward of it the Barren Grounds extend to the sea-coast. The vegetation in all the open parts of the Barren Grounds is arctic; but some of the Hudson's Bay plants are found on the banks of rivers where there are collections of alluvial soil, sheltered by high lands. This alluvial soil is so abundant on the Mackenzie River, that many of the Hudson's Bay plants and thick groves of White Spruce grow as far north as lat. 68½°. The shores of Behring's Straits are similar in soil and climate to the Barren Grounds, and I should class Newfoundland and Labrador with the island of Anticosti and mouth of the St. Lawrence, along with the Hudson's Bay district."

An article of food, extensively used by the Canadian hunters in the arctic and subarctic regions of North America, is afforded by some species of Lichen, all belonging to a distinct tribe, indeed, of the Liverworts, and now constituting the genus Umbilicaria. It was this which, under the name of Tripe de Roche (*fig.* 1061.), is described as supporting for many days those enterprising travellers Captain Sir John Franklin and Dr. Richardson, and some of their companions, when they were in that country exposed to the most unparalleled hardships and sufferings from a want of every other aliment; while other individuals of the same party perished, incapable of subsisting upon so wretched a diet.

1061

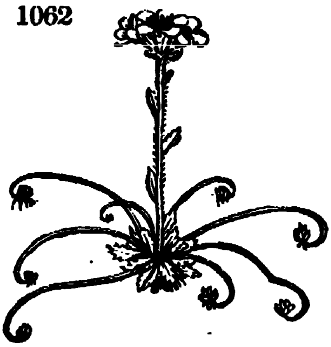


Tripe de Roche.

The most northerly land belonging to North America that has yet been explored, if we except Greenland, is Melville Island, in lat. 75°, belonging to which Mr. Brown has enumerated 130 species, including Cryptogamiæ. The whole of the genera and most of the species are such as are common to high northern regions, or the most elevated mountains of the southern ones. Many are found upon the Rocky Mountains, as is the case with that very singular vegetable, the Saxifraga flagellaris (*fig.* 1062.), whose long runners, radiating from a central plant, like the legs from the body of a spider, induced the sailors to call it the Spider Plant.

Greenland does not belong to the continent of America; but this is of no consequence, botanically speaking. Its Flora is very similar, but there is this remarkable peculiarity attached to it, namely, that it contains Heath (*Calluna vulgaris*), while no part of America Proper bears one of the genus.

1062



Saxifraga Flagellaris.

The most northerly speck of land that has yet been visited by the arctic navigators (though, perhaps, not strictly belonging to America) is Ross's Islet, a little spot in lat. 81°, and its produce of plants, half a dozen in number, is chiefly Lichens. But beyond this, a vegetation has been found, of a most singular nature as to its place of growth and its nearness to the pole. At first sight it would hardly be recognised for a vegetable at all. But it is formed from a seed or sporule, it imbibes nutriment from external organs, however minute these may be, it is destitute of locomotion, it grows, bears seed, and dies! But what is its place of growth? In lat. 82°, where Captain Parry found it in the greatest abundance,—

"There, where the north congeals his watery mass,
Piles high his snows, and floors his seas with glass,"—

there, where, we may say, there is no land, no rocks, no earth, to which it can be attached, does it inhabit the snow itself; and, from the circumstance of many miles of surface and twelve feet in depth being tinged with it, it has received the name of Red Snow* (*Protococcus nivalis*). It was again collected and brought home by Parry's second expedition, having been observed, not only growing on snow, but attached to stones and mosses, covering them with a thin red gelatinous crust; during the third voyage, this highly interesting plant was found in greater abundance, perhaps, than on any former occasion, and in a situation still more remarkable, for it was on the floes of ice, extending to the utmost limit of their progress, and in such profusion, and so completely embedded in the snow, that distinct red lines were left by the track of the boats or sledges on the surface; thus it vegetates in the most northern regions to which man has yet been able to penetrate, and flourishing most in an element (or rather a state of an element) in which no other vegetable, that we are acquainted with, can exist.

Subsect. 3.—*Zoology.*

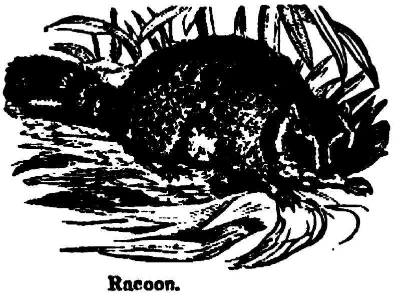
The geographic range of the quadrupeds belonging to this distant portion of the British dominions has already occupied our attention. It will, therefore, be sufficient to notice a few of those whose furs constitute an important branch of commerce, and administer so greatly to our individual comfort. On this head, the invaluable work of Dr. Richardson (*Northern Zoology*, vol. i.) again supplies us with the latest and best information.

The larger quadrupeds now known in this part of America are the Barren-Ground, the Black, and the Grisly Bears, the Prong-horned Antelope, the American Bison, the Moose Deer, and the Carabou or American Reindeer. The lesser, in which are comprised the greater number of the fur-bearing animals, are the Otter, Racoon, Badger, Ermine, Fisher, Beaver, different species of Marmots and Squirrels, with a great variety of Wolves and Foxes.

The Barren-Ground Bear appears confined to those dreary regions which bear its name, lying to the northward and eastward of Great Slave lake: it is of a dusky brown, and besides being larger than the black species, has longer soles. It feeds, like the Polar Bear, occasionally upon fish, and during the autumn frequents the sea-coast for this purpose in considerable numbers. These bears are much dreaded by the Indians, who carefully avoid burning bones in their hunting encampments, lest the smell should attract them. Dr. Richardson relates an amusing anecdote of an old Indian, who, while seated at the door of his hut, pitched upon the bank of a small stream, was surprised by perceiving a large bear coming to the opposite side, attentively surveying him. "The poor Indian considered himself in great danger, and having no one to assist him but his aged wife, made a speech to the following effect:—'O bear! I never did you any harm; I have always had the highest respect for you and your relations, and never killed any of them except through necessity. Go away, good bear, and let me alone, and I promise not to molest you.' The bear walked off, and the old man, firmly believing in the efficacy of his eloquence, favoured us, on his arrival at the fort, with his speech at length." The common Black Bear is a well-known inhabitant of Canada, while the Cinnamon bear of the fur-traders is considered but an accidental variety. The hunting of this species has been well described by Mr. A. Henry. (*Trav.* p. 142.)

The Racoon (*Procyon Lotor* Cuv.) (*fig.* 1063.) is frequently seen in menageries; its countenance is fox-like, but its gait bearish. In its wild state it sleeps by day, but prowls during the night after fruit, roots, birds, and insects. At low water it frequents the seashore to feed on crabs and oysters, and is fond of dipping its food into water before it eats, hence the specific name of lotor; it climbs trees with facility. The fur is used in making hats, and its flesh, when it has been fed on vegetables, is reputed good. The Pine Marten (*Mustela Martes*) (*fig.* 1064.) differs not from that of Europe, although certain American races, inhabiting rocky districts, are distinguished by the superior fineness and dark colours of their fur. This is used for trimmings, and will dye so well as to imitate sables and other more expensive furs; hence it has always been an important article of commerce: upwards of 100,000 skins have long been collected annually in the fur countries. The Pekan, or

1063



Racoon.

1064

Pine Marten.

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* Represented at p. 295 of volume I. of this work.

Fisher (*Mustela canadensis*), is a larger and stronger animal, but its manners are similar; its fur, however, is harsher than that of the Marten, and less valuable: some thousands are annually killed in the Hudson's Bay countries.

The Canada Otter (*Lutra canadensis*) resembles the European species in habits and food, but is perfectly distinct, measuring near five feet long; while the American Wolf, equally confounded with that of the Pyrenees, has now been ascertained, by Dr. Richardson, to be a different species. The Quebec Marmot is a solitary animal, inhabiting under-ground burrows, yet capable of ascending trees: the Indian takes it for food, by pouring water into its retreats; but its fur is of no value.

1065

Canada Lynx.

The Canada Lynx (*Lynx canadensis*) (*fig.* 1065.) is not uncommon in the woody districts, since from 7000 to 9000 skins are annually procured by the Hudson's Bay Company. It is a timid creature, never attacking man, and is incapable of injuring the larger quadrupeds. It lives principally on hares: its gait is not much unlike that of its prey; it proceeds by bounds, straight forward, with the back a little arched, and lighting on all the feet at once; it swims well, but is not swift on land. The Indians eat the flesh, which is white and tender.

1066

Rough-legged Falcon.

Among the birds of rapine and the chase may be noticed the two majestic Eagles of northern Europe, the Golden and the White-headed. The Fish Hawk is not uncommon; nor is the booted or rough-legged Falcon (*Buteo lagopus*) (*fig.* 1066.), a rare bird. The Marsh Hawk of Wilson seems to be also numerous, but whether this is the young of the European hen-harrier is yet doubtful. The Grouse are much more abundant in these northern latitudes than in the United States, but they are all very different from the European kinds; nor is their Ptarmigan the same as that of the highlands of Scotland. These supply food to the Great White Owl, which here frequently hunts his quarry during the day. Numerous small migratory birds enliven the short-lived summer; They visit Canada for the purpose of incubation, and then retire southward; but the Canada and the short-billed Jays (*Disornithia canadensis*, and *brachyrynchus*, Sw.) appear stationary, and are peculiar to these regions.

The Waterfowl, and wading tribes, as may be expected, are in immense numbers, and supply excellent food to the provident natives, by whom they are preserved in the snow as winter provision. Among these the Canada Goose is one of the largest and the most numerous. How far these birds extend their migrations northward is not known: they were seen by Captain Phipps on the dreary coast of Spitzbergen, in lat. 80° 27′; and, Wilson remarks, it is highly probable that they pass under the very pole itself, amid the silent desolation of unknown countries, shut out since the creation from the prying eye of man, by everlasting and insuperable barriers of ice. Certain it is, that the breeding places of these wanderers have never been discovered. After incubation, the approaching rigours of the arctic pole compel them to retreat towards the south. The Indians are well aware of the period they are to be expected, and make such havoc in their ranks, that in favourable years 3000 or 4000 are said to be barrelled for future use: the autumnal flight lasts from August to October; and those which are taken at this season, when the frost begins, are preserved in their feathers and left to be frozen for the fresh provisions of the winter stock, the feathers being sent to England. When in good order, this bird weighs from ten to twelve pounds, and each is estimated to yield half a pound of feathers. The Snow Goose (*Anas hyperborea*) is another of these northern wanderers, but its manners are not so well known: it is a common species in Hudson's Bay.

Sect. III.—*Historical Geography.*

The discovery of this part of America was effected at a very early period by British skill and enterprise. In 1497 and 1498, very soon after the voyage of Columbus, John and Sebastian Cabot not only explored the coast of what is now the United States, but surveyed the mouth of the St. Lawrence, and sailed even along the coast of Labrador. Some years after, the French navigator, Jacques Cartier, sailed up the St. Lawrence to Montreal, upon which voyage the French founded their claim to Canada. Some settlements were made in Acadie, since Nova Scotia, and trading posts were established, in the first years of the seventeenth century, and in 1608 a colony was founded on a great scale, under the pompous title of "New France." The settlements were pushed by that enterprising nation with great activity, and even far into the interior, until they began to enclose those formed by Britain, in New England, so that a collision between these two great rival nations became inevitable. Canada was transferred to Britain by the events of the war, 1756–63, and by the glorious combat at Quebec, where Wolf conquered and fell. By the peace, all this and the other parts of North America were secured to Britain in full dominion. Canada remained to her even amid the great revolution which severed all the southern part of her empire. By a singular contrast, the part of America which was colonised from England, and inhabited by Englishmen, rejected her, while the part colonised by France, and inhabited by Frenchmen, remained firmly attached to her. This was doubtless, in a great measure, a consequence of the conciliatory manner in which England treated the conquered province.

Sect. IV.—*Political Geography.*

The British dominions in North America are divided into the five provinces of Upper Canada, Lower Canada, New Brunswick, Nova Scotia, Prince Edward's Island, and Newfoundland. The constitution of government of the provinces has been modelled on that of the mother-country; each province has a governor and a legislative council appointed by the crown, and a house of commons or representatives chosen by the inhabitants, upon moderate qualifications.

The government of Canada was administered by a governor and council appointed by the crown until 1791, when the constitutional act, as it was commonly called, divided the country into two provinces, and established a constitutional government for each. In Lower Canada, the legislative council, appointed for life, consists of 34 members, and the House of Assembly, elected for four years, by forty-shilling freeholders for the counties, and the five-pound freeholders or ten-pound annual renters for the towns, is composed of 88 members. In Upper Canada the chief executive officer is styled Lieutenant Governor; the legislative council consists of 17 members, and the House of Assembly of 50. Bills passed by the two houses, become a law when agreed to by the governor, though in certain cases the royal sanction is required, and in others reference must be had to the imperial parliament. The supreme legislative authority is vested, therefore, in the king and two houses of the British Parliament, limited, however, by the capitulations and by their own acts; the act 31 Geo. iii. ch. 13. declares that no taxes shall be imposed on the colonies but for the regulation of trade, and that the proceeds of such taxes shall be applied for the use of the province, in such manner as shall be directed by any laws made by his majesty, by and with the advice and consent of the Legislative council, and the House of Assembly. This point is one of the chief causes of the dissatisfaction in the Canadas, the colonists demanding the exclusive control over the money raised within the provinces.

The laws in force in Lower Canada are; 1. The Acts of the British parliament which extend to the colonies; 2. Capitulations and treaties; 3. The laws and customs of Canada founded principally on the jurisprudence of the parliament of Paris, as it stood in 1663, the edicts of the French kings, and the Roman civil law; 4. The criminal law of England as it stood in 1774, and as explained by subsequent statutes; 5. The ordinances of the governor and council, established by the act of the above year; 6. The acts of the provincial legislature since 1792. Trial by jury is universal in criminal cases, but a very small proportion of the civil cases are tried in this manner. Law proceedings are in French and English, and it is not unusual to have half the jury English and the other half French. The land on the St. Lawrence was chiefly granted by the French king on feudal tenure, to large proprietors termed *seignieurs;* and although the English government has passed laws to facilitate the conversion of the seignieurial into soccage tenures the Canadians are in general attached to the old forms. The grants of the English crown have been on free and common soccage tenures. In Upper Canada the laws are wholly English, as is also the case in the other provinces. The constitution of the other provinces also resembles that of Upper Canada.

The revenue of Lower Canada, derived almost entirely from custom duties, is $800,000 per annum; the yearly income of Upper Canada, consisting of one-third of the customs levied at Quebec, of customs levied on imports from the United States, with licenses, tolls, and the revenue derived from the lands sold to the Upper Canada Company, amounting to $80,000 a year, is $500,000; these sums form the public resources of the provinces, and are employed in the payment of the public officers, and other current expenses of the provincial governments. Upper Canada has a debt of between three and four millions, contracted for public works, roads, canals, &c. The expenditure of the British government out of the imperial revenues, was for the two provinces, in 1834, 263,250*l.*, of which 5893*l.* was for civil, and the remainder for military purposes.

The charge of the other four North American colonies for the same period was 162,3[illegible]2*l.*, of which all but 20,435*l.* was for naval and military expenses. According to Martin, the provincial revenue and expenditure of these four provinces, for 1833, were as follows:—

	Revenue.	Expenditure.
Nova Scotia	£95,000	£106,876
New Brunswick	68,000	39,000
Newfoundland	16,000	27,000
Prince Edward's Island	7,680	13,759

Sect. V.—*Productive Industry.*

The natural resources of British America are more ample than would be inferred from its dreary aspect, and the vast snows under which it is buried. Canada has a very fertile soil, especially in its upper province; and though it be free from snow only during five months, the heat of that period is so intense, as to ripen the more valuable kinds of grain. The vast uncleared tracts are covered with excellent timber. Nova Scotia and New Brunswick are less fertile, yet they contain much good land, and are well timbered. Newfoundland is not so barren as has sometimes been supposed, and has on its shores the most valuable cod-fishery in the world. Even the immense northern wastes are covered with a profusion of animals noted for their rich and beautiful furs, which form the foundation of an extensive and valuable trade.

Agriculture, in this country, is still necessarily conducted on a somewhat rude system; yet the whole of Lower Canada, for more than 400 miles along the banks of the St. Lawrence, presents an extensive chain of farms. "Corn-fields, pasture, and meadow lands, embellished at intervals with clumps of trees, snow-white cottages, neatly adorned churches, alternately present themselves to the eye in the midst of the verdant foliage which shades the banks of that noble river." The meadows of Canada are reckoned superior to those in the more southern parts, possessing a fine close turf, well covered at the roots with clover. The French *habitans* have an extremely imperfect mode of culture; they scarcely scratch the soil deeper than an inch, and adhere with pertinacity to old habits. They have none of the enterprise or emigrating spirit of the republicans, but stick to their paternal fields as long as they will yield a support to themselves and families. They cultivate nearly the same kinds of grain which are grown in England, with a little maize and tobacco. Orchards are not much attended to; but culinary vegetables are raised in tolerable plenty, especially onions, garlic, and leeks. Of animals reared for food, hogs are the most numerous; the sheep and cattle are of small size. Culture in Upper Canada is still in an incipient state, but it is advancing rapidly, in consequence of the influx of British settlers. Government for some time allowed to every settler fifty or even a hundred acres upon payment of fees amounting to about a shilling per acre; but since 1827, the lands have been disposed of by public auction. An officer, entitled the Commissioner of Crown Lands, fixes the extent to be sold in each year, and the upset price, which are announced in the Gazette. No lot is to contain more than 1200 acres, and the purchase-money is to be paid by four instalments, one at the time of sale, the rest at intervals of a year; but purchasers under 200 acres may obtain possession, liable to a redeemable quit-rent of 5 per cent., payable annually in advance. If the conditions are not fulfilled, the land is forfeited. Government has, however, at different times, during the distress of the labouring classes in Britain, not only made free grants to large bodies of them, but given aid in conveying them across the Atlantic, and settling them on their allotted portions. By Lord Howick's bill, in 1831, it is provided, in the case of any one willing to emigrate, and who it is apprehended may become a burden on the poor rates, that, on payment of a certain sum out of these rates, he shall be conveyed to the colonies; where he may either employ himself as a labourer, or obtain a small assignment of land, for which, however, after a certain interval, he is expected to pay. Among emigrants possessed of capital, a great proportion have of late made their purchases from the Canada Company. This body, incorporated in 1826, bought from government tracts equal to 2,300,000 acres, for which they engaged to pay the sum of 295,000*l.*, by sixteen annual instalments. These are dispersed through every part of Upper Canada; but the largest portion, amounting to about a million of acres, and extending sixty miles in length, is along the eastern shore of Lake Huron. The Company found towns and villages, form roads, lay out the ground in convenient lots: they have agents on the spot, who afford every information and aid to emigrants; they sell their lands from 7*s.* 6*d.* to 20*s.* an acre, requiring only one fifth of this sum to be paid immediately, the rest by annual instalments, which, it is said, the land can easily produce by cultivation; and the company state that they have on no occasion been under the necessity of resorting to compulsory measures to obtain the payment of arrears. The settler must begin with the laborious task of felling the trees, of erecting a log-house for himself, and a commodious barn for storing the grain. The former may cost 12*l.* and the latter 60*l.* The cost of a stock of farm cattle is reckoned by Mr. Howison at 28*l.*; and that of clearing and sowing an acre, 5*l.* 5*s.* The first year's produce is usually twenty-five bushels of wheat, which may sell at 4*s.* 6*d.* each. The second year's crop will be considerably larger. Wheat, the most valuable crop, is raised very successfully; rye and Indian corn also succeed; but oats and barley do not. The best green crop is the squash or gourd. The management here, as over all America, is very slovenly, when compared with good English farming; but circumstances, perhaps, do not admit of better; and the greatest difficulty is the want of a market. The expense of living, so far as concerns the absolute necessaries of life, is very moderate; but wearing apparel and all manufactured goods are double the price at which they sell on the other side of the Atlantic. Servants are very dear, and scarcely to be had at any rate of wages; even those brought from Britain usually strike out an independent career for themselves. A wife, if at all industrious, and a large family, instead of being a burden, are the great source of prosperity on the American lakes.

Manufactures form no considerable part of the political economy of Upper Canada; and policy will lead Great Britain not to encourage them.

The commerce of British America is an object of much greater importance. The fur trade, the original object for opening an intercourse with this part of the world, was carried on in the first instance chiefly from the shores of Hudson's Bay; but it was there injudiciously placed in the hands of an exclusive company, which greatly diminished its activity. About forty years ago, Mr. M'Tavish, and some other active merchants at Montreal, established what was called the North-west Company, which was opposed for some time by a rival one, under Sir Alexander Mackenzie, but the two at last united. The company then consisted of forty partners, who employed upwards of 3000 clerks, travellers, and Indians. Their agents consist chiefly of tough Scotch Highlanders, who undergo incredible hardships in traversing the vast expanse of these dreary and pathless wastes; but they are enabled to live in splendour at Montreal, and sometimes return with considerable fortunes. The furs are chiefly those of the beaver, which pass for money on the northern lakes; those of the various foxes, black, silver cross, and blue; of the wolverine, the marten, the lynx. Lord Selkirk has laid open all the sins of the North-west agents, which do not appear to have been very few. The medium of exchange was almost exclusively spirits, the excessive use of which had the most ruinous effects, both moral and physical, on the Indians, whom, indeed, it has gone near to exterminate. The eager rivalry of the two companies, operating thus in regions beyond the pale of law, has given birth to many deeds of fraud and violence. Within these few years, however, an union has healed the deadly enmity between them; and, by acting in concert, they have determined, as Captain Franklin affirms, to diminish the issue of spirits, and even to adopt every practicable means for the moral and religious improvement of the Indians. The furs exported from Quebec, on an average of 1830 and 1831, were, 41,225 beaver and otter, valued at 25*s.* each; 466 bear and buffalo, 20*s.*; 936 deer, 3*s.*; 2630 fox, 10*s.*; 12,400 lynx, cat and marten, 10*s.*; 39,000 musk-rat, 6*d.*; 1500 tails of marten, fox, &c., 1*s.* These, with some smaller articles, are valued at 211,000*l.* It is remarkable that they are cheaper in London than at Montreal; owing, it is said, to the superior skill used by the London manufacturers in getting them up, so as to make a small quantity go a great deal farther.

The timber trade, the value of which, thirty years ago, did not exceed 32,000*l.*, has now surpassed all others in magnitude. It has been favoured not only by the great demand for ship and house-building, but much more by the great difference made in the duty, as compared with that imposed upon Baltic timber; and which, though reduced, is still 2*l.* 5*s.* per load. Britain makes thus a great sacrifice (the wisdom of which has been much questioned), since the timber of Canada is not only loaded with a heavier freight, but is decidedly inferior as to strength and durability. This timber is obtained not from the agricultural districts, but chiefly from the immense forests upon the shores of the great interior lakes. The trees are cut down during the winter, partly by American axemen, who are peculiarly skilful; and the business is attended with great hardship, both from the work itself, and the inclemency of the season. The trees when felled are put together into immense rafts, which often cover acres, and on them are raised small huts, the residence of the woodmen and their families. Ten or twelve square-sails are set up, and the rafts are navigated to Quebec through many dangers, in which nearly a third of them are said to be destroyed. Those which survive are ranged along the river in front of Quebec, forming a line four or five miles in extent, till they are taken down and exported in the shape of timber, deals, and staves. The Canada merchants lately estimated the capital invested in this trade at 1,250,000*l.* It is also carried on to a great extent from Nova Scotia, New Brunswick, and even from Cape Breton. The export to all quarters amounted, in 1831, to 1,877,000 deals and battens; 46,278,000 feet of deals, planks, and boards; 6,925 cords of lathwood; 6783 masts and spars; 25,795 oars; 1,372,000 large, and 7,653,000 small, staves; 14,815,000 shingles; 470,580 tons of fir, oak, &c. timber. The value of these and a few minor articles, is estimated by Mr. Bliss at 1,038,000*l.* sterling.

Other considerable articles are pot and pearl ashes, which, in 1831, amounted to 200,300 cwt., value 325,000*l.*; wheat and wheat flour, limited chiefly by the want of demand. In 1831 there were exported 1,341,278 bushels of wheat, value, at 6*s.* 8*d.*, 447,092*l.*; flour, 82,406 barrels, at 35*s.*, 144,210*l.*; barley, 214,562 bushels, at 3*s.*, 32,184*l.*; beef and pork, 15,802 barrels, at 60*s.*, 47,406*l.*; cattle, 2055 head, 5*l.*, 10,275*l.*; vegetables, 369,000 bushels, at 1*s.* 6*d.*, 27,686*l.*; butter, 157,475 lbs. at 1*s.*, 7873*l.*; biscuits, 7348 cwts. at 17*s.* 6*d.*, 6429*l.* These, with some minor articles, amounted to 656,584*l.* For some time, however, the ports of Britain have been shut against foreign grain; and, though some relaxation has been granted with respect to Canada, it seems very doubtful if the free admission which its cultivators demand for their grain will ever be accorded by the British landholders. The value of grain imported from these colonies into Britain amounted, in 1825, to 95,000*l.*; and on an average of twenty-five years to 256,000*l.* The shipping employed between Britain and her American colonies was, in 1829, inwards, 1609 ships of 431,124 tons; outwards, 1652 ships of 418,142 tons. The value of the imports into Britain, in 1829, was 1,088,622*l.*; of the exports, 2,064,126*l.*

To the West Indies the northern states export staves, timber, grain, provisions, and salted fish; receiving in return the well-known produce of these islands. With the United States, Canada holds a great intercourse across Lake Champlain, sending chiefly salt and peltry, taking in return some provisions, timber, and potash; and, clandestinely, tea, tobacco, and other luxuries, which the strict colonial rules would require her to receive from the mother-country.

The fishery is pursued upon these shores to an extent not surpassed anywhere else upon the globe. The rich supply of cod on the Newfoundland bank is wholly unparalleled. This bank may be termed a vast submarine mountain, 330 miles in length, and 75 in breadth. The approach to it is announced by flights of penguins, and the shore covered with shells and a profusion of small fish, which serve as food to the vast shoals of cod, which resort to the bank. Although all the nations of Europe have been lading cargoes of them for centuries, no sensible diminution has been felt. The English employ about 40,000 tons of shipping, and 3000 men, in this fishery. In 1814 and 1815, the British exported upwards of 1,200,000 quintals, but the amount has since diminished. In 1831, they exported 889,380 cwt. of fish at 10*s.*, 444,690*l.*; 87,788 barrels of herrings at 20*s.*, 87,788*l.*; 14,068 tuns of oil at 25*l.*, 351,650*l.*; 737,449 seal-skins at 1*s.*, 36,872*l.*; which, with some minor articles, made up an estimated value of 834,182*l.* The French and Americans share in this trade; and the former, on an average of five years, carry off annually 245,000 quintals, at 1*l.* 1*s.* per quintal; the latter, in 1831, exported 208,000 quintals, and 76,000 barrels, the value of which was about 425,000*l.*

The interior communications of Canada are almost solely by the river St. Lawrence and the lakes, which open a very extensive navigation into the country. It is seriously obstructed, however, between Montreal and Lake Ontario, where a series of rapids occur, over which only canoes can shoot; and all heavy goods must be landed and reshipped.

Great exertions have been made to improve by canals the interior communications of Canada, though the advantage of those made by the government has been a good deal controverted. The chief object has been to obviate the continued series of obstructions to the navigation of the St. Lawrence above Montreal. One canal has been conducted from that city to the village of La Chine, a distance of eight miles, avoiding the formidable cascade, called the Sault St. Louis. Considering the moderate distance, the expense of 130,000*l.* is very large; but the works are said to be admirable, and the canal is of great use. Government then determined to form a grand circuitous communication with Lake Ontario by the Ottawa. The object held forth was, that in the event of war with the United States, military stores might be conveyed from Lower to Upper Canada, without the dangers which would be incurred by the route of the St. Lawrence, the opposite bank of which would be in possession of the enemy. In the prosecution of this plan, the Grenville canal, eight miles long, divided into three sections, was constructed, to avoid certain falls and rapids in the lower navigation of the Ottawa. It is forty-eight feet wide, and five feet deep. The grand operation on this line, however, is the Rideau canal, reaching from the Ottawa to Lake Ontario, near Kingston. It is 135 miles long, connecting together a chain of lakes which admit of steam navigation; and the dimensions are such as to allow vessels from 100 to 125 tons to pass. The estimated expense was 486,000*l.*, which it will have considerably exceeded. It seems much to be regretted, when so much expense was incurred, that it was not employed upon a canal parallel to the St. Lawrence, which, whenever it is accomplished, will, in a commercial view, supersede the Rideau. Estimates have accordingly been formed of two dimensions, according to one of which such a canal would cost 92,000*l.*, and to another, 176,000*l.*; and it is thought the larger scale will prove profitable, and remunerate the undertakers. The enterprise of private individuals has constructed the Welland canal, which, at an expense of 270,000*l.*, has united the lakes of Ontario and Erie. It is forty-two miles long, fifty-two feet broad, and eight feet and a half deep; and the chambers of the locks are of dimensions sufficient for vessels of 125 tons. It is thus much more capacious than the great New York canal, though not nearly of equal length. The Chambly canal opens a navigation by the Sorelle from Lake Champlain to the St. Lawrence.

Sect. VI.—*Civil and Social State.*

The following table, exhibiting the population, area, annual produce, live stock, &c. of the British North American provinces, has been extracted from Martin's elaborate History of the British colonies; but it is not to be concealed that the author's statements in different portions of the work do not always appear to agree with each other:—

Provinces.	Area, in Sq. Miles.	Population.	Acres under Cultivation.	Acres Occupied.	Horses.	Neat Cattle	Sheep.	Swine.
Lower Canada	250,000	600,000	2,065,913	4,000,000	116,686	389,700	543,343	295,137
Upper Canada	100,000	320,000	1,630,965	3,540,000	36,530	160,000	300,000	250,000
New Brunswick	27,704	100,000	500,000	1,500,000	12,000	90,000	120,000	80,000
Nova Scotia, with Cape Breton	18,742	185,000	1,400,000	2,500,000	25,000	200,000	300,000	160,000
Prince Edward's Island	2,131	33,000	200,000	1,000,000	7,000	32,000	50,500	25,000
Newfoundland	35,913	80,000	100,000	100,000	1,000	10,000	10,000	20,100

The people of Lower Canada, and of the interior of Nova Scotia and New Brunswick, consist almost entirely of French, known under the name of *habitans* (*fig.* 1067.). The stranger who passes into Canada out of the United States is much struck with the change of aspect and address. The visage of the habitant is long and thin, his nose prominent, inclining to the aquiline; his eyes small, dark, and lively; his chin sharp; his complexion swarthy and sunburnt, and often darker than that of the Indian. Instead of displaying the hardy bluntness of the American, he is courteous and polite in the extreme. Even carmen and peasants are seen taking off their caps, bowing and scraping to each other as they pass along the streets. In their demeanour they are easy and unembarrassed, like persons that have passed their lives in good company. Indeed, Mr. Lambert observes, that the original settlers consisted partly of the noblesse of France, disbanded officers and soldiers, and other persons accustomed to good society. They have imbibed nothing of that stirring, restless, and adventurous spirit for which the Americans are almost proverbially noted. They are described by Mr. Duncan as "of habits altogether hereditary and monotonous, content to pace along in the footsteps of their forefathers." They also cherish a mortal and almost superstitious antipathy against their republican neighbours, especially the Bostonians; to whose machinations, according to Mr. Hall, they are wont to ascribe fire or any other public calamity which befalls their cities. This feeling, with the mild and liberal treatment which they have experienced, has secured them from all disposition to take part with the United States in any of the recent contests. They enjoy a happy mediocrity of condition, possessing in abundance the necessaries of life, and some of its luxuries. They are a contented, gay, harmless, ignorant, superstitious, gossiping race. They emigrate reluctantly and rarely, adhering to their paternal spot, and dividing it as long as possible among the members of their family.

1067

Canadian Habitans.

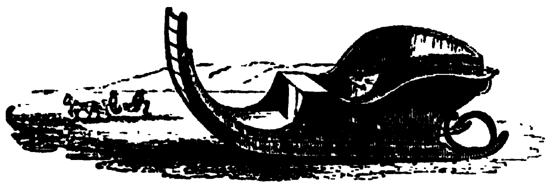
In religion, the habitans have always adhered to their original Catholic profession. In this the British have fully protected them, continuing to support the establishment, and levying a small land-tax to defray the expense. The Canadian clergy are represented as exemplary in their conduct, diligent in the discharge of their functions, and by no means possessed of that violent spirit of proselytism, which has been often ascribed to them. Catholics are admitted to the house of assembly, and to all offices, and are perfectly loyal. A protestant establishment of the church of England is also supported on a small scale. The church of Rome has 191 churches, 298 other places of worship, called *cures*, or *presbytères*, 20 convents, and 10 colleges. Of the convents, six are large nunneries in the great towns; the others are dispersed over the country, serving chiefly for purposes of female education. The church of England has 39 places of worship; the church of Scotland, four; the Wesleyan Methodists, five.

The houses of the Canadians are constructed of logs slightly smoothed with the axe, laid upon each other, and dovetailed at the corners. The interstices are filled with clay or mud, and the surface whitewashed. The roof is constructed with boards, generally covered with shingles, to which the weather gives the appearance of slate. There is only one story, or ground floor. The Frenchwomen are said to have improved in cleanliness by the example of their English neighbours, having before been accustomed to leave the dust and dirt on their floors unmolested for a twelvemonth, only sprinkling a little water to prevent the dust from rising. They have still much to learn in this particular, and argue against the constant scouring practised by their new neighbours, as injurious to health. The mansions are usually adorned with pictures, or images of the Virgin and the saints, the execution of which bears unequivocal testimony to the low state of the arts.

The amusements of Canada are not varied. The French, always fond of dancing and of social parties, gave to the towns the character of being gay and hospitable; but Mr. Lambert says, that, since British residents have multiplied, a spirit of party, a propensity to scandal, and jealousy as to rank, have considerably marred this harmonious disposition. The theatre is in a very low state; but the most national amusement is that of driving over the snow in the clear months during the depth of winter, in a vehicle called a cariole with a sharp bottom, which glides over the snow like a skate (*fig.* 1068.).

The dress of the Canadian habitant consists of a large dark gray cloth coat or frock, with a hood, which, in wet weather, he draws over his white or red nightcap, like the cowl of a monk. It is tied round with a worsted sash of various colours. He has a waistcoat and trousers of the same cloth, and mocassins or long boots, fitted for making his way through swamps. A jacket and petticoat is the original dress of the females; though they have begun to adopt, at a long interval, the changing fashions of the mother-country.

1068



Canadian Cariole.

The food of the rural Canadians is chiefly pork, boiled in pea-soup, which is the standing dish at breakfast, dinner, and supper. During Lent, fish, vegetables, and sour milk supply its place. Knives and forks are accounted superfluous; and, to meat which can be eaten with a spoon, the whole party sit round and help themselves from one general dish. Tea and coffee are only occasional treats. Unfortunately, from its cheering influence, rum is too much in request, and the habitant seldom returns from market without rather an undue portion of it. At certain seasons, and especially after Lent, they have their "*jours gras*," in which fifty or a hundred sit down to a table, covered with enormous joints, huge dishes of fruit and fowl, and vast tureens of milk and soup. Dancing concludes the merriment.

Sect. VII.—*Local Geography.*

In detailing the geography of British America, we must divide this extensive territory into six portions:—1. Lower Canada; 2. Upper Canada; 3. Nova Scotia; 4. New Brunswick; 5. Prince Edward's Island; 6. Newfoundland.

Subsect. 1.—*Lower Canada.*

Lower Canada extends along the bank of the St. Lawrence up as far as the Lake St. Francis, a little beyond Montreal. Till of late, this was the only part of the country which was settled and peopled to any extent, and to the upper province there was little resort, unless with a view to the fur trade. It is still the most densely occupied, and all the trade must necessarily pass through it. The great body of the French habitants are included within it. Lower Canada is divided into four districts:—Quebec, Trois Rivières, Montreal, and Gaspé, which are subdivided into 40 counties.

For these four districts the estimates of Mr. Bouchette, formed, seemingly, with very great care, so as nearly to approach the truth, enable us to present our readers with the following table. Allowance, however, must be made for the increase within the last few years:—

	Quebec.	Trois Rivieres.	Montreal.	Gaspe.	Total.
Population	143,761	51,657	268,631	7,777	471,676
Square Miles	125,717	15,811	49,769	7,389	198,686
Acres, Arable	291,403	125,902	580,006	4,887	1,002,198
Acres under Fallow, or Meadow	612,443	244,878	1,081,966	5,100	1,944,387
Wheat, Produce in Bushels	793,872	362,974	1,752,386	12,008	2,931,240
Oats "	627,053	317,722	1,379,856	16,898	2,341,529
Barley "	123,604	25,841	213,672	....	363,117
Peas "	192,469	81,261	546,783	2,805	823,318
Other Grains "	171,000	86,000	596,000	1,500	854,500
Potatoes "	1,848,104	606,365	4,121,721	219,820	6,796,310
Horses	39,022	18,822	81,199	1,389	140,432
Oxen	35,498	19,344	88,361	1,539	145,012
Cows	78,797	32,218	147,324	1,676	260,015
Sheep	248,042	93,674	482,810	4,596	829,122
Hogs	86,596	30,228	120,906	4,005	241,735
Looms	4,315	2,073	6,756	99	13,243

The city of Quebec (*fig.* 1069.), the capital of Canada, is the chief feature in the district bearing its name. It is singularly situated, half on a plain along the northern bank of the St. Lawrence, the other half on the top of a steep perpendicular rock, at least 350 feet high, which rises immediately above. These are called the Lower and the Upper Towns. The Upper Town contains the government buildings, the residence of the governor, the military, and the most

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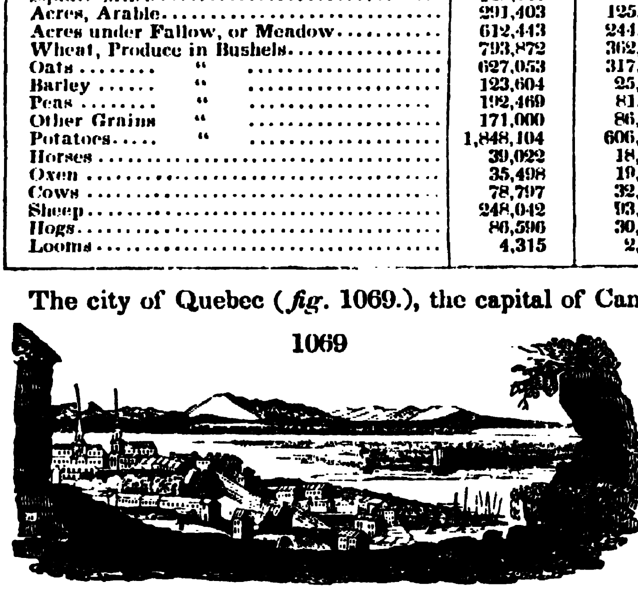
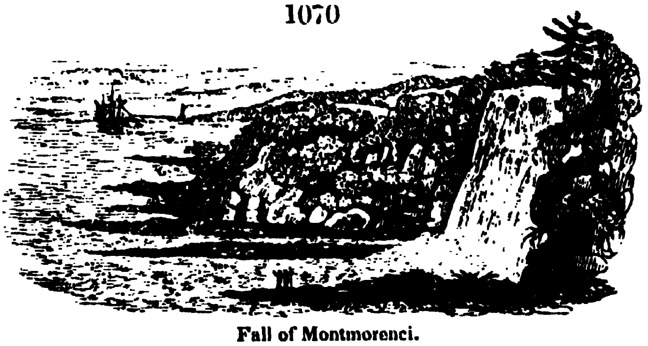


City of Quebec.

opulent inhabitants, the best and handsomest streets, and the most agreeable mansions. The Lower Town is more crowded; its houses are less handsome, and have a gloomy and monotonous aspect; but it is the sole seat of the traffic by which Quebec is enriched. The communication between the two is maintained by a narrow track through a cleft in the rock, called Mountain Street, to which name it fully answers. During the long winters, when this steep track is a sheet of ice, it can be passed only with great caution, by the aid of Shetland hose, iron cramps, and similar expedients. Quebec is by strict statute built of stone, as a security against the dreadful conflagrations which have laid waste the wooden cities of the west. There are three nunneries, containing each from thirty to forty inmates, which number is kept up without difficulty. Two of them devote themselves to education and the care of the sick; so that they are of real use to society. The male orders were not allowed to recruit their numbers, and as they successively died, their funds were appropriated by government, which, from the Jesuits alone, derived an income of 12,000*l.* a year. The cathedrals and other public buildings are respectable, without any of them being very remarkable. The life of the inhabitants of Quebec is varied chiefly by the vicissitudes of the season. Towards the end of November, winter sets in, and for several weeks heavy falls of snow, hail, and sleet closely follow each other. The snow often rises to a level with the top of the smaller houses; and it is with the utmost difficulty that the inhabitants can keep open a narrow path between them. Towards the end of December the weather becomes clear, the snow ceases to fall, and its white solid mass covers the entire expanse of the surrounding country. Then is the time for the citizens to sally forth with horse, sledge, and cariole, and drive over the smooth snowy plain, where, as every trace of a path has been obliterated, the route is marked by pine branches, stuck in at short distances, and varying the monotony of the scene. Every precaution against the cold must now be employed, of which buffalo robes, lined with green baize, have been found the most effectual. Thus passes the time till March, when the weather becomes mild, and even hot; and in April the ice of the St. Lawrence breaks with a mighty crash, and floats down for eight or ten days in large masses, bearing along with it fragments of earth and rock from the upper parts of the river. May and June are usually wet; in July and August the inhabitants suffer from the intense heat and tormenting swarms of insects: September is the most agreeable month of the year; but in October the biting frosts of winter begin to be felt. Quebec, as a military position, is excessively strong. It is surrounded by a lofty wall, and the rock on which it stands can be approached only on the western side, where a citadel and a great range of other works render it almost another Gibraltar. Quebec was one of the most brilliant scenes of British glory. Near it, on the plains of Abraham, Wolfe, at the cost of his life, gained the splendid victory which annexed Canada to the British empire. In the beginning of the American war, General Montgomery, in attempting to carry it, was defeated. It is considered as securing the possession of Lower Canada, which, without it, would be untenable. The population of Quebec is about 25,000. The commerce of Quebec is considerable; as all the vessels from Britain and other foreign quarters stop there and unload their cargoes. The communication with Montreal is carried on by several steam-packets. Arrived in 1835, 1132 vessels of 323,300 tons.

The country round Quebec is broken, wild, wooded, and highly picturesque. About seven miles distant is the Fall of Montmorenci (*fig.* 1070.), one of the most striking and beautiful objects in North America. It bears no comparison to Niagara in magnitude and the mass of its waters; but the ample woods with which it is fringed, the broken rocks which surround and intersect its channel, tossing it into a foam resembling snow, render it perhaps a more beautiful scene.

1070



Fall of Montmorenci.

The town of Trois Rivières, situated about ninety miles above Quebec, with a free navigation, contains about 3000 inhabitants. The place is built of indifferent wooden houses. The Indians formerly came to exchange their furs here; but these are now intercepted at Montreal, by the North-west Company. The town has a good natural wharf, but its only trade consists in supplying the district with European and West India goods. There is, however, an iron-work in the neighbourhood, where good stoves are said to be made. The inhabitants are almost entirely French.

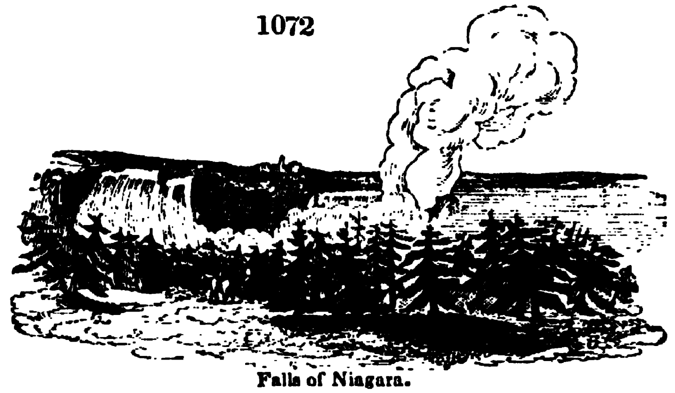
Sorelle or William Henry, Chambly, and St. John, are considerable towns on the river Sorelle.

Montreal is situated immediately below the rapids, at a point where the ample stream of the Ottawa flows into the St. Lawrence. It is the commercial capital of Canada; and most modious harbour. The plan is elegant and extensive, and, being well though partially filled up, makes a pretty little town. The population is about 5000. The little navy raised here during the late war is laid up, and some of the ships are only in frame, but all in a state to be finished and sent out in a short time. Toronto, formerly York, near the north-west end of the lake, owes its support to its being the seat of government, and of the courts; and to the extensive settlements recently formed to the north and east of it. It consists of one long street, along the lake, with the beginnings of two or three others parallel to it. The houses, barracks, and government offices are all neatly and regularly built of wood, and whitewashed. The population has increased to about 10,000.

Between Kingston and York are, Cobourg and Port Hope, thriving towns, deriving importance from their situation as outlets to the flourishing country round Rice Lake. At the west end of the lake is the busy little town of Hamilton.

The Niagara channel, about forty miles in length, brings into Ontario the waters of Lake Erie and of all the upper country. On this channel occurs an object the most grand and awful in nature, the Falls of Niagara. The accumulated waters flowing from four mighty lakes and all their tributaries, after being for two miles agitated like a sea by rapids, come to a precipitous rock where they pour down their whole mass in one tremendous plunge of 165 feet high (*fig.* 1072.). The noise, tumult, and rapidity of this falling sea, the rolling clouds of foam, the vast volumes of vapour which rise into the air, the brilliancy and variety of the tints, and the beautiful rainbows which span the abyss, the lofty banks, and immense woods, which surround this wonderful scene, have been considered by experienced travellers as eclipsing every similar phenomenon. The noise is heard, and the cloud of vapours seen, at the distance of several miles. The fall on the Canadian side is 630 feet wide, of a semicircular form, that on the American side only 310 feet, and 165 feet in height, being six or seven feet higher than the former. The one, called the Crescent or Horse-shoe Fall (*fig.* 1073.) descends in a mighty sea-green wave; the other, broken by rocks into foam, resembles a sheet of molten silver. Travellers descend with the certainty of being drenched to the skin, but without danger, to the foot of the fall, and even beneath it. There are now excellent inns on both sides of the falls, which are crowded with visitants. On the Niagara frontier are three villages; one, that of Niagara, with about 1500 inhabitants, situated at the mouth of the river on Lake Ontario, with a fort facing another on the American side; Queenstown, seven miles below the falls, which suffered severely during the late war, but is recovering; and Chippewa, the same distance above, containing several neat houses, at the mouth of a river, the banks of which are covered with excellent timber. These places were the scene of some fighting during the late war, and at Queenstown, where General Brock fell, a fine column, 125 feet high, has been erected to his memory.

1072



Falls of Niagara.

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The Horse-shoe Fall.

Lake Erie is still a grander expanse than Ontario, and its waters are equally clear and transparent. The navigation, however, is by no means so commodious. It is shallow, not averaging a depth of more than fifteen or eighteen fathoms, and at the same time liable to violent storms. Long sunken reefs and precipitous rocky banks occasion dangers greatly increased by thick mists, which often hide from the mariner all view of his course. Scarcely a summer passes in which some vessels are not lost. Steam-packets are best calculated for steering through these perils, and they are accordingly employed to a great extent. There is a number of fine wooded islands on Lake Erie. The country along its northern shore is varied, and on the whole exceedingly fine. Near its eastern extremity it receives the Grand or Ouse River, which is navigable for schooners thirty miles up, and for boats considerably higher. The banks are very fertile and finely wooded, and abound in gypsum, which proves an excellent manure. The next district is that called Long Point, forming a promontory projecting into the lake. It is composed of a light sandy soil, covered, not with thick woods, like the rest of Upper Canada, but only with scattered groves and trees, which render it very beautiful, and are an extreme convenience to the settler, who finds himself released from the task of hewing down enormous forests. To the west of Long Point is the Talbot settlement, formed, in 1802, by Colonel Talbot. It extends seventy or eighty miles parallel to the lake, with many branches stretching into the interior. Numerous examples are here afforded of persons who arrived in a state of destitution, and who now possess in abundance all the necessaries of life. As we proceed westward, the settled tracts become more thinly scattered, and beyond the river Thames commences the tract called the Long Woods, being forty miles of uninterrupted forest, with few habitations. At the end of it, the traveller comes to the lower bank of the Thames falling into the lake of St. Clair, which with the rivers Detroit and St. Clair, connects Lake Erie with the northern expanse of Lake Huron. This district is a thickly planted old settlement formed by the French Canadians. It is a delightful tract, in which fruits of every kind grow to a perfection unknown in other parts of Canada. In summer, the country presents a forest of blossoms, which exhale the most delicious odours; the climate is mild and agreeable, and the meanest peasant has his orchard and plenty of cider at his table. The class of settlers, however, attached to old customs, do not seem likely to make the same progress as the enterprising European colonists. Malden, at the head of Lake Erie, Amherstburgh, and Sandwich, are neat little towns in this district. In the interior are Chatham, at the head of sloop navigation on the Thames; and ninety miles higher up, London, a thriving town with about 2000 inhabitants.

Lake Huron is still larger than Lake Erie, and its greatest extent is from north to south, almost in a pyramidal form, with its base towards the north, from the eastern end of which, however, the large bay, called the Georgian Bay, branches off. It is crowded with islands, which stretch along the northern coast in close and successive ranges, and, combined with the storms to which this lake, like the others, is subject, render the navigation peculiarly intricate and dangerous. The northern coast of this lake is not at all settled, nor indeed fully explored; it is reported, as compared with the lower lakes, to have an unfruitful soil, and a cold, humid, and tempestuous climate; but the cutting down of the woods, and a careful culture, after the more tempting lands shall have been exhausted, may probably yield more favourable results. Along its eastern shore there is a great extent of very fruitful territory. Here is the neat and flourishing town of Goderich, with a good harbour at the mouth of the Maitland. At the bottom of the Georgian Bay, stands Penetanguishene, a British naval station, from which a steamer runs to the island of St. Joseph, at the western end of the lake, on which is kept a small detachment of British troops. On the northern coast opposite St. Joseph's is Portlock Harbour, also a military station.

Lake Superior, the farthest of this great chain, is of still larger extent, being nearly 400 miles in length. Its northern coasts are rugged and winding, formed of precipitous rocks, often penetrated with deep caves. Major Long, who coasted it, says that no scene can be more dreary than its northern shore: nothing appears on its surface but barren rocks and stunted trees; the climate is cold and inhospitable; game very scarce; fish plentiful, but difficult to take. No one attempts to travel by land, unless in winter, when the rivers are frozen. The coast, however, is picturesque, from the clearness of the water, the bold and varied forms of the rocks, and the numerous cascades. Only half a dozen of Chippewa families were met along its whole course. The Hudson's Bay Company have posts at Michipecoten, Pic River, Kaministiquia, and Pigeon River, where a good deal of business is done. Just above Fort William, on the Kaministiquia, are the Kakabikka Falls described in the account of Major Long's expedition. They have a perpendicular descent of 130 feet, and a breadth of 150 feet; and in the volume of water which they present, in the roar of the cataract, and the wildness of the vegetation and of the rocks around, are said to rival the falls of Niagara. The climate is extremely severe; potatoes and turnips are the only vegetables which can be raised.

Subsect. 3.—*Nova Scotia.*

Nova Scotia is a large peninsula forming, as it were, a fragment detached from the great mass of the British territory. It is bounded on the north and north-east by the narrow straits, separating it from Cape Breton and Prince Edward Islands; on the south-east by the Atlantic; and on the north-west, by the Bay of Fundy, which penetrates so deep as to leave only an isthmus, about nine miles broad, connecting it with New Brunswick. It is about 280 miles long, and from 50 to 100 broad, comprising about 16,000 square miles, or upwards of 9,000,000 acres. The land varies much in respect of fertility. The coast facing the Atlantic, presenting a rocky and barren aspect, conveyed the idea, which was long prevalent, that sterility formed the prevailing character of the soil; but when the interior and the banks of the rivers had been explored, this was found to be very far from being generally the case. Bouchette calculates that of the 9,000,000 acres of land of which it consists, upwards of 2,000,000 are of the very first quality; about three are good, and only the remaining four inferior or bad. The unoccupied lands were at first disposed of by grant, but they are now, as in Canada, sold annually by auction. About 4,000,000 acres are appropriated, leaving 5,000,000 still to be disposed of. The appropriated part is of course the best; still there are many fine tracts in the interior, hitherto unknown, or to which navigable access has newly been opened. The cultivated land was found, in 1828, to amount to 292,000 acres, producing 153,000 bushels of wheat; 449,000 of other grain; 3,358,000 bushels of potatoes; 163,000 tons of hay. In 1832 it was 398,000 acres, and the live stock consisted of 19,000 horses, 144,700 horned cattle, 234,000 sheep, and 98,000 hogs. The population of Nova Scotia, including Cape Breton, was at that time about 190,000. About one-fourth of the number are French Acadians, who live very much by themselves, and are a quiet, good sort of people; a fourth from Scotland; 1200 free negroes; and some Indians, who, though more and more closely hemmed in, still adhere to their roaming and hunting habits, and look with contempt on those who cannot live without the fantastic luxuries of bread, houses, and woven cloth. They have been converted, however, by the French, to the Catholic religion; and, when not drunk, make tolerable subjects. The climate of Nova Scotia is not nearly so bad as is reported. From December to March the country is one sheet of snow; but this, as in all northern regions, is the period of gaiety, even out of doors. The spring is foggy, but the autumn delightful; and the country is never subject to those pestilential diseases which desolate some parts of America. Fish is the chief article of export; that in 1831 from Halifax is stated at 161,000 quintals of dry, and 53,500 pickled. Timber is the chief article of export to Britain. In 1828, it sent 8,800,000 feet of hard wood, pine, and spruce, and about 33,000 tons ditto; with 1320 masts, &c. The exports to the neighbouring states and the West Indies consist of timber, provisions, butter, coal of fine quality, gypsum, and freestone, of which there are large depositories. The administration of the colony is vested in a governor, council, and house of assembly. There is a college at Windsor, on a very respectable footing; another, called Dalhousie College, at Halifax, and a third in Pictou. There are also numerous schools, partly supported by government, for the education of the lower ranks. The means of religious instruction are large, though without any regular establishment. There are ten or twelve Catholic clergymen; twenty-eight of the Church of England; twenty-five Presbyterian; twenty-five Methodists, and numerous Baptists

Nova Scotia may be divided into three grand portions:—1. The eastern coast, which extends for more than 300 miles along the Atlantic. 2. The coasts of the Gulf of St. Lawrence, or more strictly the narrow straits, on the opposite side of which are the islands of Prince Edward and Cape Breton. 3. The shores of the Bay of Fundy. About the centre of the eastern coast is Halifax, enjoying one of the noblest harbours in the world, originally called Chebucto, on a bay sixteen miles long, which will contain any number of shipping of any size. It was founded in 1749, by General Cornwallis, and has since carried on almost all the trade of the country. During the impulse given by the last war, the population had risen to 12,000, but has since sunk to 9000. The most extensive dock-yard in British America has been formed here. The society consists chiefly of military officers and merchants. There is on this coast a succession of fine harbours, of which twelve are capable of admitting ships of the line. Lunenburg, chief of the German settlements, contains a population of about 2000 inhabitants, and has a brisk trade. Liverpool also carries on a considerable traffic; but Shelburne, which, at the end of the American revolutionary war, was the largest place in Nova Scotia, has sunk into a mere village. The north-eastern coast has Pictou, from which, and the neighbouring bays on this coast, is shipped the largest quantity of timber and coal. On a river falling into the Bay of Fundy is Annapolis, the original French capital; but, since the transference of the seat of government to Halifax, it has sunk into a very secondary place. The trade of this great bay is now chiefly carried on from Yarmouth at its mouth; the population of which, since 1791, has risen from 1300 to 4500. Gypsum is the principal export.

Cape Breton is a large island, separated from Nova Scotia only by narrow and winding channels, called St. George's Gulf and the Gut of Canseau, a great part of which is not more than a mile broad. The island is about 100 miles in length, and from 30 to 80 in breadth, containing an area of about 2,000,000 acres. It is penetrated by an arm of the sea, called the Bras d'Or, which divides it nearly into two equal portions, and is throughout navigable. The surface is diversified by hills, none of which rise above 1500 feet; and the soil is fully equal to that of the neighbouring countries. Only the coasts, including those of the Bras d'Or, have yet been cultivated; and the population in general is in a less improved state than in the other colonies. The climate resembles that of the neighbouring countries in the intensity of the cold in winter and of the heat in summer; but these follow more irregularly, and a fortnight's thaw occurs often in the midst of frost and snow. Yet these variations are not disadvantageous to agriculture, which, however, is still in its infancy, the valuable cod-fishery attracting the chief industry of the people. Cape Breton, therefore, imports wheat flour, though it affords a small surplus of oats and potatoes. The exports, in 1828, consisted of 41,000 quintals of dry, and 18,000 barrels of pickled fish. About fifty vessels, averaging fifty tons each, are annually built. There are coal mines of great value. Cape Breton has excellent harbours, and commands, in a great measure, the navigation of the St. Lawrence. Of the population, exceeding 25,000, the most numerous portion consists of Scottish highlanders, and next to them of Acadians. The island was, in 1820, politically united to Nova Scotia, and sends two members to the house of assembly Louisburg, which the French carefully fortified, and made one of the principal stations in their "New France," is now entirely deserted, and Sydney, a village of 500 inhabitants, is all the capital which Cape Breton can boast. Arechat, a fishing-town on Isle Madame, has about 2000 inhabitants. To the south-east of Nova Scotia lies Sable Island, a dangerous sand-bank in the track of vessels sailing between Europe and America.

Subsect. 4.—*New Brunswick.*

New Brunswick is a large country to the north-west of Nova Scotia, from which it is separated by the Bay of Fundy. It has on the east a winding coast along the St. Lawrence; on the north, part of Lower Canada, from which it is separated by the river Restigouche; on the south-west, the territory of the United States. It is estimated to contain 27,700 square miles, or 17,700,000 acres. The western part is diversified by bold eminences, though Mars Hill, the highest, does not exceed 2000 feet. From these heights flow fine rivers, of which St. John's has a course of about 500 miles, for nearly half of which it is navigable. The soil is believed to be generally fertile; and grain, where tried, has prospered; but agriculture has not, on the whole, made such progress as to render New Brunswick independent of foreign supply. This great country is still almost one unbroken magnificent forest; and under the encouragement afforded by Britain, almost all the energies of the inhabitants are directed to the timber trade. This trade is conducted by a class of men called *lumberers*, who carry it on during the depth of winter, in the heart of these immense woods, sheltering themselves in log-huts, four or five feet high, with a large fire in the middle, round which they all sleep. In spring, when the ice melts, and all the river channels are filled, they load the timber in vessels, or form it into rafts, during which operations they suffer much from cold and wet. Having brought the produce of their winter's labour down to the ports, they obtain a liberal remuneration, which in the course of a few months is squandered, usually in empty show and reckless indulgence. The population is supposed to have reached 110,000. The government is similar to that of Nova Scotia.

The towns are built almost entirely at the mouths of the rivers, and supported by the trade brought down their streams. The only exception is in Fredericton, the seat of government, which has been established eighty-five miles up the St. John; and that river being still navigable for vessels of fifty tons, makes it the seat of a great inland trade. It is a small town of 1800 inhabitants; rather regularly built of wooden houses, with government offices, several churches, and a college. St. John's, on a fine harbour at the mouth of the river, possesses much greater importance, and contains about 10,000 people. It is built on a rugged and rocky spot, which renders the passages, especially between the upper and lower town, steep and inconvenient; but much has been done to remedy this defect. The exports from St. John's, in 1829, amounted to 210,000*l.* being nearly two-thirds of the amount from all the other ports. St. Andrew's, at the head of the bay of Passamaquoddy, besides its timber trade, has a considerable fishery, and is supposed to contain about 5000 inhabitants. The river Miramichi is distinguished by the extensive forests on its banks, whence large shipments of timber are made at the port of that name as well as those of Chatham, Douglas, and Newcastle; yet they are all only villages. This tract of country suffered dreadfully in October 1825, by one of the most dreadful conflagrations on record. The flames kindled by accident at several points, were impelled by a violent wind, and fed always with new fuel till they spread over about a hundred miles of territory, involving it in smoke and flame, and reducing to ashes the towns of Douglas and Newcastle. Nearly 200 persons are said to have perished, and more than 2000 to have been reduced to entire destitution. The natural advantages of the country, however, have enabled it to recover with surprising rapidity.

Subsect. 5.—*Prince Edward's Island.*

Prince Edward, called formerly St. John's, is a fine island, extending to the westward of Cape Breton, and, like it, parallel to the coast of Nova Scotia, from which it is separated, however, by a channel ten or fifteen miles wide. It is about 135 miles long, and 34 broad; but the circuit is very irregular, and deeply indented by bays. The island comprises about 1,400,000 acres; and the surface, compared with that of the surrounding countries, is level, varied only by gentle undulations. Protected, perhaps, by their high lands, it has shorter winters, is exempt from those extremes of heat and cold, and those heavy fogs, which render them often so gloomy. This island, notwithstanding its advantages, was neglected by the French, who bestowed all their attention on Cape Breton, as a naval station. In 1768 it contained only 150 families. It then, however, attracted particular attention, and a number of disbanded troops, particularly Scotchmen, were settled upon it. The population is 35,000. The larger proportion consists of Highlanders, who retain still all their native characteristics; their patriotism, hospitality, and capacity of dispensing with little refinements and comforts. The Acadians rank next in number; and a good many respectable farmers have recently resorted thither from Yorkshire and the lowlands of Scotland. The attention of the inhabitants, as in the neighbouring countries, has been, perhaps, too much attracted by the fishery and the trade in timber; but, the latter being nearly exhausted, agriculture is now more regarded. The soil is light and easily worked, well calculated for wheat and oats, of which it affords a surplus. The horses and cattle are small, but active and useful, though many of them are allowed to run almost wild. Prince Edward has a constitution similar to the other colonies. The capital, Charlottetown, with 3500 inhabitants, has an excellent harbour on Hillsborough Bay.

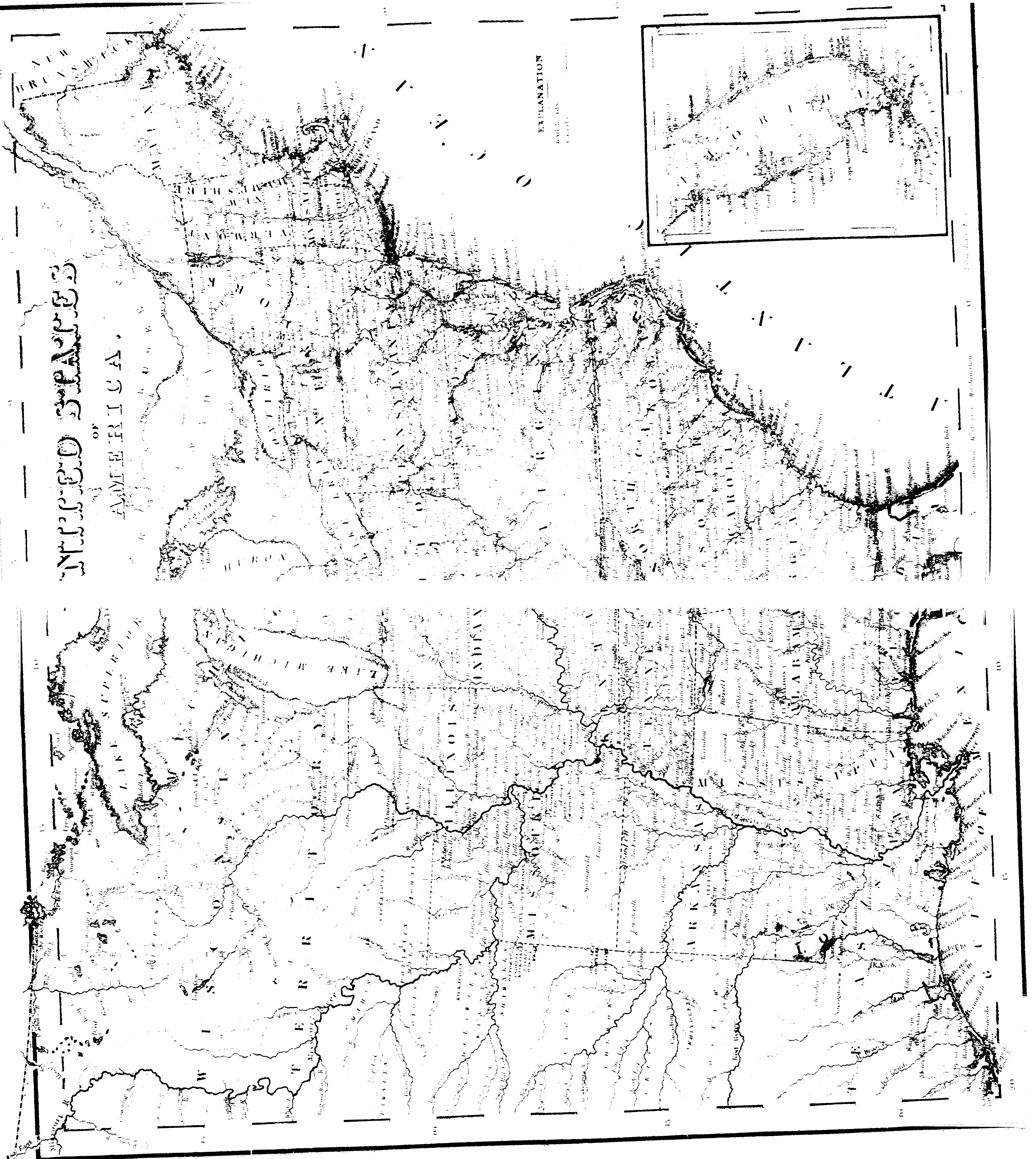
Subsect. 6.—*Newfoundland.*

Newfoundland is a large island, 420 miles long and 300 broad, situated at the mouth of the Gulf of St. Lawrence, and forming the most eastern part of North America. The land is by no means so highly favoured by nature as the parts of British America already described: its aspect is rugged and uninviting; and, instead of those noble forests, with which they are clothed, it presents only stunted trees and shrubs. Some tracts, however, are supposed to be well fitted for pasturage. But the prosperity of Newfoundland has hitherto been derived exclusively from the cod fishery on its shores, the banks there being much more productive than in any other known part of the world. So early was its value discovered, that in 1517, not twenty years after the first voyage, upwards of fifty vessels of different nations were found employed in the fishery. The British soon took the most active part, and formed colonies on the island. Their sovereignty was recognised by the treaty of Utrecht, which reserved, however, to the French the right of fishing on the banks. This was confirmed in 1763, when the small islands of St. Pierre and Miquelon were allowed to them for drying their fish. The Americans are allowed to take fish at any three miles from the shore, and to dry them on any of the neighbouring coasts unoccupied by British settlers; and with these immunities they carry on a most extensive fishery.

The British fishery is chiefly conducted from stages or platforms erected along the shore, from each of which, at the dawn of day, issue forth several boats, having each from two to four men on board, who continue fishing till they have filled their bark, then repair and deposit their cargo on the platform, and set out to seek for another. The fish, before they become marketable, must pass through various hands. Along one table are seated the cut-throat, the header, and the splitter. The first functionary with a knife rips open the fish, nearly severing the head, then hands it to the header, who clears away the head, entrails, and liver, throwing the latter into a cask, to be distilled into oil. The splitter then divides the cod, taking out the back-bone. With such celerity are these operations performed, that ten fish are often split in a minute and a half. The salter then piles them in heaps, with layers of salt between each, in which state they remain for a few days, when they are washed and spread out in the sun to dry. There are three qualities of cod-fish: the merchantable, which are the very best; the Madeira, little inferior, for exportation to Spain and Portugal; the West India, an inferior description, which are sent to the islands for the purpose of feeding the negroes.

Newfoundland contains about 80,000 inhabitants, almost entirely fishermen, scattered over sixty or seventy stations on the eastern and southern shores. It has lately received, like the other colonies, the benefit of a representative system. St. John's, the principal town on the island, is little more than a large fishing station, the whole shore being lined with wharfs and stages. The harbour, formed of lofty perpendicular rocks, is safe, though the entrance requires caution. The place is defended by several fortresses, one of which, Fort Townsend, is the residence of the governor. The houses are ranged irregularly along one long street, with lanes branching from it: they are built mostly of wood. This construction exposed the town, in 1815, to a series of four dreadful conflagrations, in one of which 140 houses, and property to the value of 500,000*l.* are supposed to have been destroyed. The population varies much according to the season of the year; Mr. Bouchette estimates its stationary amount at about 11,000. Harbour Grace is a fishing village, with 3000 inhabitants.

The uninhabited island of Anticosti in the Gulf of St. Lawrence, and the coast of Labrador, are dependencies on Newfoundland. Near its southern coast are the little islands of St. Pierre and Miquelon, belonging to France, and occupied by fishermen. The Great Bank of Newfoundland, to the eastward of the island, is the most extensive submarine elevation known. It stretches from 43° to upwards of 50° N. lat., being about 600 miles in length from north to south, and in some parts 200 in breadth. The soundings are from four to ten, thirty, and a hundred fathoms. About six leagues to the eastward of the Grand Bank is the Outer Bank, or Flemish Cape, 90 miles in length by 50 in breadth. These banks, the great rendezvous of the cod-fish, form the fishing-ground for some 2500 to 3000 vessels, and from 35,000 to 40,000 Americans, English, French, &c., chiefly, however, the first and last mentioned. The banks are frequently enveloped by very dense fogs, from April to December.


UNITED STATES
OF
AMERICA
EXPLANATION
ATLANTIC OCEAN
GULF OF MEXICO
NEW BRUNSWICK
MAINE
NEW YORK
PENNSYLVANIA
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SOUTH CAROLINA
FLORIDA
LAKE SUPERIOR
LAKE MICHIGAN
LAKE ONTARIO
LAKE ERIE
HURON
ILLINOIS
INDIANA
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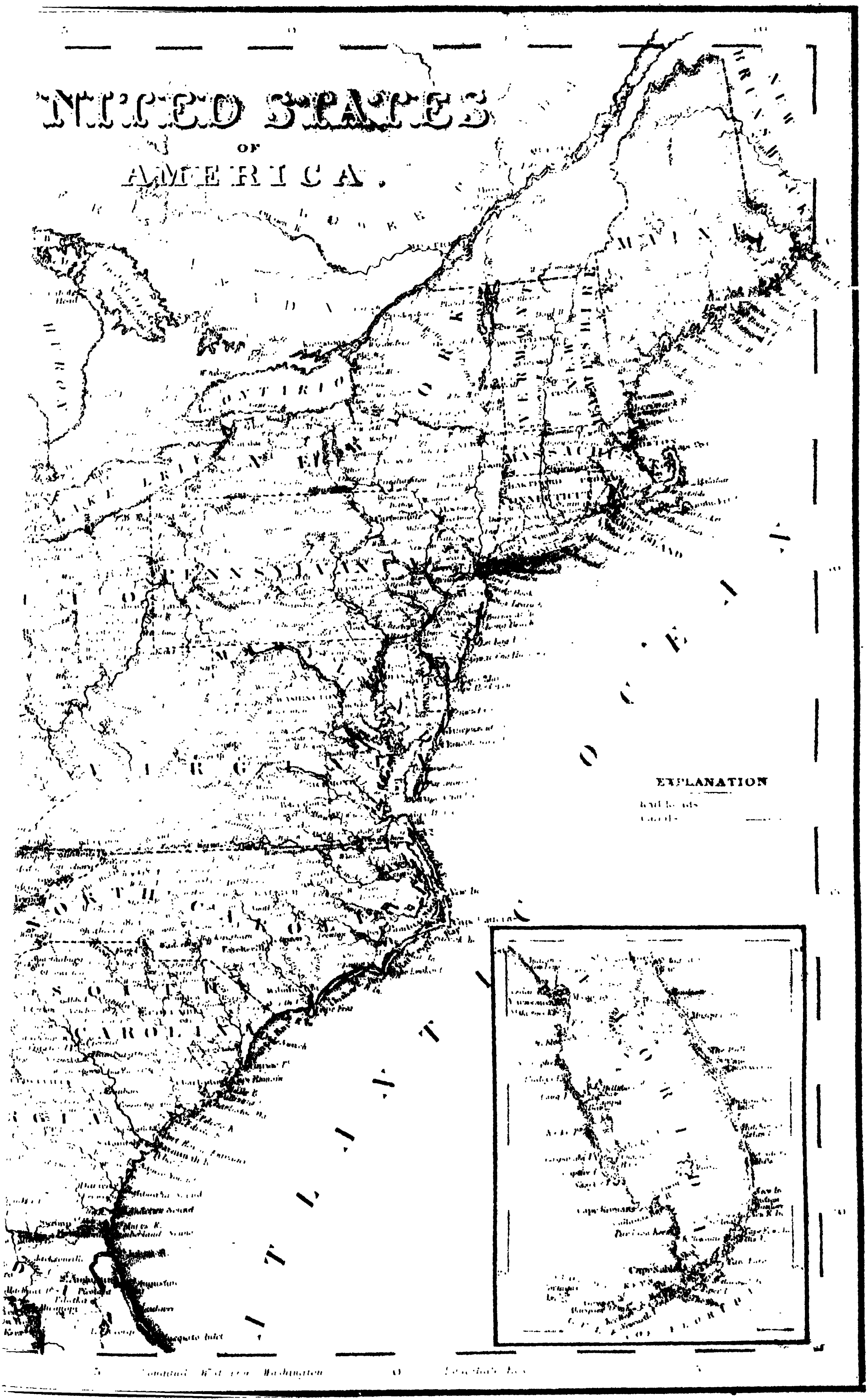
ARKANSAS
LOUISIANA
MISSISSIPPI
ALABAMA
TENNESSEE
KENTUCKY
WISCONSIN TERRITORY


UNITED STATES OF AMERICA.
UPPER CANADA
LAKE ONTARIO
LAKE ERIE
NEW YORK
VERMONT
NEW HAMPSHIRE
MAINE
NEW BRUNSWICK
MASSACHUSETTS
PENNSYLVANIA
OHIO
MARYLAND
VIRGINIA
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA
ATLANTIC OCEAN
EXPLANATION
Rail Roads
Canals
FLORIDA
Longitude West from Washington

CHAPTER XII.

UNITED STATES.

The United States, by much the greatest and most influential power in the New World, occupies the most valuable and productive part of North America. Its eastern coast, facing the happiest and most civilised portion of the Old World, became the first seat of a free and independent republic, that has long since stretched itself from the Mexican Gulf to the great lakes of the north, and which, having passed the Mississippi, is already on the point of topping the rocky barriers that divide the Pacific from the Atlantic streams. Our limits will only allow us to give a hasty sketch of its physical, civil, and political characters.

Sect. I.—*General Outline and Aspect.*

The United States are bounded on the north by the Russian and British provinces, on the east by the British province of New Brunswick and the Atlantic ocean, on the south by the Gulf of Mexico and the Mexican states, and on the west by those states and the Pacific ocean.[*] They extend from 25° to 54° N. lat., and from 67° to 125° W. lon., or through 29 degrees of latitude, and 58 degrees of longitude, comprising a superficial area of upwards of 2,300,000 square miles. The frontier line has a length of about 10,000 miles, of which about 3600 are sea-coast, and 1200 lake-coast; a line drawn across from the Pacific to the Atlantic near its centre is about 2500 miles in length.

But the territory of the United States may be considered under three views; first, as including the whole vast region within the limits above described, the title to a part of which is disputed by Great Britain, but is good against the rest of the world; secondly, as bounded by the Rocky Mountains, within which there can be no claim raised except by the Indian occupants; thirdly, as limited to the portion of country actually occupied and organised into state or territorial governments. This last region is bounded on the west by the river Missouri, and the western limit of Missouri, Arkansas, and Louisiana, and may be estimated to contain about 1,300,000 square miles.

Two great mountain ranges traverse the United States, dividing the country into three distinctly marked natural sections; the Atlantic slope, the Mississippi valley, and the Pacific slope. The Appalachian or Alleghany system of mountains is more remarkable for its length than its height. Its mean elevation is not more than 2000 or 3000 feet, about one half of which consists of the height of the mountain ridges above their bases, and the other of the height of the adjoining country above the sea. From the sources of the principal rivers of Alabama and Mississippi to the great lakes and the St. Lawrence, and about midway between the Atlantic and the Mississippi, lies a vast table-land, occupying the western part of the Atlantic states, and the eastern part of the adjoining states of the Mississippi valley; on this table-land, which carries a somewhat tempered northern climate into the region south of the river Tennessee, rise five or six parallel mountain chains, of which the most remarkable are the Blue Ridge, the Kittatinny Mountain, and the Alleghany Ridge. If the White Mountains of New Hampshire be considered the prolongation of the Blue Ridge, that chain is about 1200 miles in length, and it contains some of the loftiest summits east of the Mississippi; Mount Washington is estimated to have an elevation of 6428 feet above the sea; the Peaks of Otter are about 2000 feet lower; and recent observations give to the Black Mountain in North Carolina a height of 6476 feet. The passage of the Hudson through this ridge at the Highlands, and that of the Potomac at Harper's Ferry, afford scenes of great beauty and grandeur. The Kittatinny, or Blue Mountain, according to Darby, is a distinct and well-defined chain of 800 miles in length, extending from the Hudson into the northern part of Georgia; some of its summits on the borders of Tennessee and North Carolina, where it bears the local names of Iron, Bald, Smoky, and Unaka Mountains, are said to rise to the height of about 6000 feet, but in general it does not reach one-third of that elevation. The Alleghany ridge nowhere rises more than 3000 feet above the sea.

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[*] By treaty with Mexico (1828), the boundary line of the United States, beginning at the mouth of the Sabine, runs north along the western bank of that river to 32° N. lat.; thence, north to the Red River, and westward, following that river, to 100° W. long.; thence north to the Arkansas, whose course it follows on the southern bank to its source in lat. 42° N., whence it runs west to the Pacific Ocean. By treaty with Russia, in 1824, it was agreed that that power should form no settlements south of 54° 40′ N. lat., but the tract lying beyond the Rocky Mountains, and between the Mexican and Russian territories, is claimed by Great Britain. By the treaty of 1783 with Great Britain, the eastern boundary was fixed by the St. Croix from its mouth to its source, and a line drawn thence north to the highlands dividing the waters of the Atlantic from those of the St. Lawrence. The position of this dividing ridge, which was to form the northern boundary of this quarter, is still a subject of dispute between Great Britain and the United States. Following that ridge to the north-westernmost head of the Connecticut, the boundary line then passes down the middle of that river to lat. 45°, along that parallel to the St. Lawrence, and westward through that river and the great lakes to the north-westernmost point of the Lake of the Woods. From this point it was stipulated by the same treaty that the line should run due west to the Mississippi. But as it was subsequently discovered that the Mississippi did not reach so far north, and as the acquisition of Louisiana by the United States left the northern boundary west of that point to be settled, it was agreed by the treaty of 1818, that from the north-westernmost point of the Lake of the Woods, it should run due south to the parallel of 49°, and thence westwardly on that parallel to the Rocky Mountains.

The Rocky Mountains are a prolongation of the great Mexican Cordilleras, and are very imperfectly known to us. Their average height may be about 8000 feet above the sea, or about 5000 above the level of their base. But some of their peaks seem to attain an elevation of 10,000 or 12,000 feet. The great valley lying between these two systems of mountains is characterised by the vastness of its level surface, and the astonishing extent of its navigable waters. It embraces the immense basin of the Mississippi and the Missouri, the largest plain in the world except that watered by the Amazons. Its tracts of fertile land, with its great and numerous navigable rivers terminating in one main trunk, open to it prospects, by no means remote, of opulence and populousness, the extent of which it is difficult to calculate. The Ozark Mountains, extending from south-west to north-east, a distance of about 500 miles, and rising in some places to the height of nearly 2000 feet, are the loftiest and most considerable highlands of this tract.

In a state of nature, the whole Atlantic slope was covered by a dense forest, which also spread over a great part of the basin of the St. Lawrence to the 55th degree of N. lat., and nearly the whole of the Mississippi valley on the east of the river, and stretched beyond the Mississippi for the distance of 50 or 100 miles. On this enormous forest, one of the largest on the globe, the efforts of man have made but partial inroads. It is bounded on its western limits by another region of much greater area, but of a very different character. This may be strictly called the grassy section of North America, which, from all that is correctly known, stretches from the forest region indefinitely westward, and from the Gulf of Mexico to the farthest Arctic limits of the continent. The grassy or prairie region, in general, is less hilly, mountainous, and rocky than the forest region; but there are many exceptions to this remark: plains of great extent exist in the latter, and mountains of considerable elevation and mass, in the former. The two regions are not divided by any determinate limit, but frequently run into each other, so as to blend their respective features. At the foot of the Rocky Mountains is a tract of about 300 miles in width and several hundred in length, composed chiefly of dry sand and gravel, almost destitute of trees and herbage, and in some places covered with saline incrustations. Beyond the mountains we again enter a great forest region.

The rivers of the United States form a grand and most important feature. The principal streams on the Atlantic slope are the Penobscot, Connecticut, Hudson, Delaware, Susquehanna, Potomac, James River, Roanoke, Pedee, Santee, and Savannah; the Appalachicola and Mobile are the greatest rivers of the Gulf of Mexico, east of the Mississippi. But the great rivers of the United States are the Mississippi and the Missouri, which stretch their giant arms over all that vast tract lying between the Alleghany and Rocky Mountains. One hundred and fifty years from the time of its discovery by Lasalle, Schoolcraft first reached the source of the Mississippi, in the little lake Itasca, on a high table-land 1500 feet above the Gulf of Mexico, and 3160 miles from its mouth by the windings of its channel. Its source is in about 47° and its mouth in 29° N. lat., and it consequently traverses 18 degrees of latitude. Rising in a region of swamps and wild rice lakes, it flows at first through low prairies, and then in a broken course through forests of elm, maple, birch, oak, and ash, until at the Falls of St. Anthony, 1100 miles from its fountain-head, it is precipitated over a limestone ledge in a pitch of seventeen feet; it is here 600 yards wide. Below this point it is bounded by limestone bluffs from 100 to 400 feet high, and first begins to exhibit islands, drift-wood, and sand-bars; its current is slightly broken by the Rock River and Desmoines rapids, which, however, present no considerable obstruction to navigation, and 843 miles from the falls its waters are augmented by the immense stream of the Missouri from the west; the latter has, indeed, the longer course, brings down a greater bulk of water, and gives its own character to the united current, yet it loses its name in the inferior stream. Above their junction the Mississippi is a clear, placid stream, one mile and a half in width; below it is turbid, and becomes narrower, deeper, and more rapid. Between the Missouri and the sea, a distance of 1220 miles, it receives its principal tributaries, the Ohio from the east, and the Arkansas and Red River from the west, and immediately below the mouth of the latter gives off, in times of flood, a portion of its superfluous waters by the outlet of the Atchafalaya. It is in this lower part of its course, where it should, properly speaking, bear the name of the Missouri, that it often tears away the islands and projecting points, and at the season of high water plunges great masses of the banks with all their trees into its current. In many places it deposits immense heaps of drift-wood upon its mud-bars, which become as dangerous to the navigator as shoals and rocks at sea. Below the Atchafalaya it discharges a portion of its waters by the Lafourche and Iberville, but the great bulk flows on in the main channel, which here has a south-easterly course, and, passing through a flat tract by New Orleans, reaches the sea at the end of a long projecting tongue of mud deposited by the river. Near the Gulf it divides into several channels, here called passes, with bars at their mouths of from 12 to 16 feet of water. The water is white and turbid, and colours those of the Gulf for the distance of several leagues.

The river begins to rise in the early part of March, and continues to rise irregularly to the middle of June, generally overflowing its banks to a greater or less extent, although some years these are not inundated. Above the Missouri the flooded bottoms are from five to eight miles wide, but below that point they expand, by the recession of the river hills from the channel, to a breadth of from 40 to 50 miles; from the mouth of the Ohio, the whole western bank does not offer a single spot eligible for the site of a considerable town, and hardly affords a route for a road secure from overflow; on the eastern side there are several points where the hills approach the river, and afford good town-sites, but from Memphis to Vicksburg, 365 miles, the whole tract consists of low grounds subject to be inundated to the depth of several feet; and below Baton Rouge, where the line of upland wholly leaves the river and passes off to the east, there is no place practicable for settlement beyond the river border, which is higher than the marshy tract in its rear. Before the introduction of steam-boats the navigation of the river was performed by keel-boats, which were rowed along the eddies of the stream, or drawn by ropes along shore. In this tedious process, more than three months were consumed in ascending from New Orleans to the falls of the Ohio; the passage is now made in 10 or 12 days. The first steam-boat seen upon these waters was in 1810; there are now 230. The number of flat-boats and arks which annually descend the river is about 5000.

The Missouri has a much longer course than the Mississippi, its extreme length from its sources to the Gulf of Mexico being about 4500 miles. It is navigable to the foot of the Great Falls, nearly 3800 miles from the sea, and steam-boats have ascended it 2200 miles from the Mississippi. It rises in the Rocky Mountains, and some of its sources are only about a mile from the waters which flow into the Columbia. Its head-waters have not been carefully examined, but in the early part of its course it is a foaming mountain-torrent, which issues from the great alpine barrier through a remarkable chasm of perpendicular rocks, nearly six miles in length and 1200 feet in height, called the Gates of the Rocky Mountains. Sixty miles below the easternmost ridge, it forms a succession of cataracts and rapids, which are second only to Niagara in grandeur; in the space of seventeen miles the river has a descent of 360 feet, and in that distance beside the Great Fall of 90 feet perpendicular depth and 300 yards in width, and a fine cascade of 50 feet pitch, there are several others of from twelve to twenty feet. The Missouri now flows through vast prairies, and soon after receiving the Yellowstone, a large and navigable river, it takes a south-easterly course to its junction with the Mississippi. Its principal tributaries are from the west; the Platte, a wide shallow stream, the Kansas, and the Osage, are the most important. The Missouri is a wild and turbulent river, possessing all the ruder features of the Mississippi, with an average velocity of from five to five and a half miles an hour in a high stage of the water, and of about four and a half in a middle stage, that of the Mississippi being about three. The obstructions to the navigation of the Missouri are of the same sort with those of the Lower Mississippi, but they are much more numerous and formidable. The channel is rendered intricate by the great number of islands and sand-bars, and in many places the navigation is made hazardous by the rafts, snags, banks, &c. The river begins to rise early in March, and continues up to the middle or end of July, when the summer floods of its most remote tributaries come in; during this period there is sufficient depth for steam-boats of almost any draft, but during the rest of the year it is hardly navigable by vessels drawing more than two and a half feet.

In regard to lakes, the United States have a share in the greatest lake-chain in the world, that of Lakes Superior, Huron, Erie, and Ontario. But these, though the boundary line passes through their centre, belong more strictly to Canada, the masters of which possess the navigation of the St. Lawrence, their connecting stream and outlet to the ocean. Lake Michigan, however, which is 360 miles in length, with a mean breadth of 80 miles, and which covers an area of 26,000 square miles, is wholly within the United States. It discharges its waters into Lake Huron through the straits of Michilimackinac, 40 miles in length; in the north-western part of the lake is the fine large bay, called Green Bay. Lake Michigan is about 900 feet in mean depth; its surface is 600 feet above that of the sea. It is already become the scene of an active and increasing navigation, carried on by small lake vessels and steam-boats, which run up to Green Bay and Chicago.

Sect. II.—*Natural Geography.*

This subject will be treated under the heads of Geology, Botany, and Zoology.

Subsect. 1.—*Geology.*

With a view to assist in rendering the Geology of this extensive and imperfectly explored country more intelligible, we shall offer a brief introductory sketch of its *Physical Geography.*

* "Omitting the minor irregularities, and confining our survey to the great masses which compose the continent of America, its structure will be seen to exhibit great simplicity and

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* From the Report on the Geology of North America, by Prof. H. D. Rogers, in the Report of the Fourth Meeting of the British Association for the Advancement of Science. Vol. 3. of the series.

regularity. From the Atlantic to the Pacific Ocean, and from the Arctic Sea to the Gulf of Mexico, the whole area seems naturally divided into two great plains, bounded by two broad ranges, or rather belts, of mountains. One plain, the least considerable by far, occupies the space between the Atlantic and the Appalachian or Alleghany Mountains, and extends from Long Island, or more properly from the eastern coast of Massachusetts, to the Gulf of Mexico, losing itself at its southwestern termination in the plain of the Mississippi; this last is a portion of the second great plain, which we may style the central basin of the continent, and occupies much the largest portion of the whole surface of North America. In breadth it spreads from the Alleghanies to the Rocky Mountain, and expands from the Gulf of Mexico, widening as it extends northward, until it reaches the Arctic Sea and Hudson's Bay. Over the whole of this great area occur no mountain chains, nor any elevations beyond a few long ranges of hills. It is made up of a few very wide and regular slopes, one from the Appalachians, westward to the Mississippi; another, more extensive and very uniform, from the Rocky Mountains eastward to the same; and a third from the sources of the Mississippi and the great lakes northward to the Arctic Sea. The most striking feature of this region is the amazing uniformity of the whole surface, rising by a perfectly regular and very gentle ascent from the Gulf of Mexico to the head waters of the Mississippi and the lakes, reaching in that space an elevation of not more than 1000 or 1200 feet, and rising again in a similar manner from the banks of the Mississippi westward to the very foot of the Rocky Mountains. From the Alleghanies to the Mississippi the surface is more broken into hills, and embraces the most fertile territory of the United States. Three or four hundred miles west of the Mississippi a barren desert commences, extending to the Rocky Mountains, covering a breadth of between four and five hundred miles, from the Missouri in lat. 46°, the whole way into Mexico. The territory from the sources of the Mississippi, north, is little known except to fur traders and the Indians, but is always described as low, level, and abounding in lakes.

"Of the two chief mountain belts which range through the continent, both nearly parallel to the adjacent coasts, the Alleghany, or Appalachian, is by far the least considerable. This system of mountains separates the central plain or basin of the Mississippi from the plain next the Atlantic, though its ridges do not in strictness divide the rivers which severally water the two slopes. The northern and southern terminations of these mountains are not well defined; they commence, however, in Maine, traverse New England nearly from north to south, deviate from the sea and enter New York, cross Pennsylvania in a broad belt, inflecting first to the west and then again to the south, and from thence assume a more decidedly southwestern course, penetrating deeper into the continent as they traverse Virginia, the two Carolinas, and Georgia, into Alabama. Throughout this range, especially in the middle and southern portions, they are marked by great uniformity of structure, an obvious feature being the great length and parallelism of the chains, and the uniform level outline of their summits. Their total length is about 1200 miles, and the zone they cover about 100 miles broad, two-thirds of which is computed to be occupied by the included valleys. They are not lofty, rarely exceeding 3000 feet, and in magnitude and grandeur yield immeasurably to the Rocky or Chippewayan Mountains which traverse the opposite side of the continent."

A comprehensive geographical work, such as the present one aims to be, seems an appropriate place in which to attempt a classification and nomenclature of the extensive and complicated system of mountains which traverse the territory of the United States on the Atlantic side of the continent. We have used indiscriminately the terms Alleghany and Appalachian, thus far, to designate the whole series, following the ordinary loose phraseology of geographers; but we here propose to appropriate each of those names to a separate group of these mountains, and to comprehend the entire collection under the general title of the *Atlantic Series* of mountains, distinguishing them thus from the Pacific or Chippewayan ranges. The several subordinate groups of this broad belt of hills and mountains are so distinct, both in their Geographical and Geological characteristics, that for the purpose of accurate reference some subdivision of them has become absolutely indispensable. A careful contemplation of the mountain regions of the United States, will teach the traveller that there prevail four independent mountain groups, crossing the country in the same general direction, or from the northeast to southwest, each obviously separable from the others, by strongly marked external features, no less than by their geology. He will soon see the propriety of classing in one group all the mountain ranges of New England with their prolongation, the Highlands which cross the Hudson at West Point, and pass through New Jersey into Pennsylvania. This tract of mountains, lying chiefly east of the Hudson river, I propose to designate as the *Eastern system* of mountains. Nearly in a line with the southwestern ranges of this group, or with the belt of hills called the Highlands, and pursuing the same general southwest course from Maryland to Alabama, there extends a range of long, swelling, and lofty ridges, the great central axis of which is known in Virginia and Tennessee as the Blue Ridge. This whole line of mountains, marking the great Kittatinny or Winchester valley as the western limit, and embracing all the hills of the Cotoctin, and Buffalo mountain range, as its eastern line, we shall call, for the sake of retaining as nearly as possible the names now current in the country, the *Blue Ridge system.*

The Eastern system of mountains consists almost wholly of *primary* rocks, chiefly of the stratified class. The Blue Ridge system, on the other hand, comprises, so far as research has yet gone, no rocks of genuine primary character, but formations principally of the oldest non-fossiliferous secondary group, or such as formerly would have claimed the name *transition.*

Our next belt of mountains we designate the *Appalachian system*, using a title conferred by some geographers upon the whole mountain series of the United States. The Appalachian belt is made up of a multitude of straight, nearly parallel ridges, of very steep sides, of remarkably level outline along their summits, and having an elevation rarely exceeding 2000 feet above their included valleys. Commencing west of the Hudson they pursue a southwest course parallel to the Highlands, as far as these extend, and beyond that parallel to the Blue Ridge system as far as Alabama. In width they are enclosed between those systems on their east, and the true Alleghany ranges on their west. Their formations belong to the oldest fossiliferous groups, for they contain no rocks as recent apparently as the bituminous coal series.

To the next and last group of the whole belt of the Atlantic mountains, and lying to the west and northwest of the Appalachians, we may very properly affix the name of the *Alleghany system*, the title Alleghany having already been fastened upon one of the chief ranges of the group in Pennsylvania. The mountains of this system all rise from an elevated table-land; they present but little uniformity in their course, further than this, that where they have the character of ridges, the general direction of these is parallel to that of the Appalachians, or is northeast and southwest. They seem to owe their configuration, which is that of vast piles of nearly horizontal strata rising from a plain intersected by innumerable deep valleys of denudation, rather to causes which have removed portions of the high plateau on which these mountains stand, than to direct uplifting forces, such as have unquestionably acted in the more convulsed regions of the other three mountain systems.

The elevated plateau of the Alleghany system is cut off, rising commonly next the east, by an abrupt escarpment, which, combined with the deep and sudden denudation of the high plain immediately westward of this eastern termination, confers upon this portion of the plateau of the Alleghany the character of a broad, irregular mountain-range of rather uniform direction. Some of the parallel mountain-ridges west of this eastern edge of the plateau, consist of very obtuse, gently swelling, anticlinal axes, but more commonly they are true hills of denudation. We make the eastern limit of the Alleghany system to embrace the so called Alleghany mountain of Pennsylvania, the Eastern Front-ridge, the Greenbriar mountain, Great Flat-top mountain, &c. of Virginia, and others in Tennessee. The mountain called on the maps the Alleghany mountain, in the central latitudes of Virginia, is a member of the Appalachian system, while further south in Virginia and in North Carolina, the so called Alleghany is the main Blue Ridge itself.

"The Chippewayan system of mountains, the Andes of North America, skirts the continent on the side of the Pacific in a broad belt from the Isthmus of Panama almost to the Arctic Sea; its extreme northern limit, as defined by Captain Franklin, being far north on the Mackenzie's River. The chains within this zone are many of them very lofty, their average direction, until they enter Mexico, being nearly north and south. Within the United States territory they rise abruptly from the sandy plain before described, in longitude about 32½° west from Washington; and from that meridian nearly the whole way to the ocean the region is mountainous, with elevated sandy plains, and volcanic tracts resembling those of Mexico. The summits of many of the Chippewayan chains are far above the limit of perpetual snow, the highest points being about 12,000 feet above the sea.

"When we regard the grandeur of the dimensions exhibited in these several divisions of North America, the extreme regularity prevailing over great distances, both in the plains and systems of mountains, and the straightness and parallelism of these to its long coasts, we are prepared to look for a proportionately wide range and uniformity in its geological features."

The great plain spoken of above as lying between the Atlantic Ocean and the adjacent mountains, and which in the southern States is nearly 200 miles in breadth, is separated longitudinally, nearly through its whole length from Massachusetts to Alabama, into two tracts strongly contrasted with each other as respects both their geographical and geological features. The boundary which divides them is the eastern edge of a low undulating line of primary rocks, which, forming the termination of the upper or rocky tract, separates it from the lower, flat, and sandy plain, with all the features of having been at one time the line of coast. From New Jersey to North Carolina this boundary, beginning the rocky country, presents a well-marked barrier to the tide in nearly all the rivers that cross from the mountains to the sea.

"The rivers descend from the mountains over the western tract, precipitate themselves over the rocky boundary mentioned, either in falls or long rapids, and emerge into the tide level to assume at once a totally new character. South of North Carolina this line of primary rocks leaves the tide and retires much nearer to the mountains, though it still preserves its general features, separating the rolling and picturesque region of the older rocks from the tertiary plains next the ocean; and though its base is not any longer laved by the tide, as in Virginia, Maryland, and Pennsylvania, it still produces rapids and cataracts in the southern rivers which cross it. Ranging for so very great a distance with a remarkable uniformity of outline and height, on an average between 300 and 400 feet above the tide, it constitutes as admirable a geographical limit as it does a commercial one. Nearly all the chief cities of the Atlantic States have arisen upon this boundary, from the obvious motive of seeking the head of navigation; a striking example of the influence of geological causes in distributing population and deciding the political relations of an extensive country. Below this boundary the aspect of the region is low and monotonous, the general average elevation of the plain probably not exceeding 100 feet. Its general width through the Middle and Southern States is from 100 to 150 miles."

This lower level region next the sea, I shall refer to by the title of the *Atlantic Plain* of the United States, while the district commencing with the abrupt rocky limit on its west, and which extends gently upwards to the base of the mountains, may very fitly be styled the *Atlantic Slope*, a name proposed by Darby for the whole region between the mountains and the ocean.

"The surface is everywhere scooped down from the general level to that of the tide, by a multiplicity of valleys and ravines, the larger of which receive innumerable inlets and creeks, while the smaller contain marshes and alluvial meadows. The whole aspect of the barrier of primary rocks forming the western limits of this plain forcibly suggests the idea that at a rather lower level they once formed the Atlantic shore, and that they exposed a long line of cliffs and hills of gneiss to the fury of the ocean: a survey of the plain just described as strongly suggests the idea that all of it has been lifted from beneath the waves by a submarine force, and its surface cut into the valleys and troughs which it presents, by the retreat of the upheaved waters. The submarine origin of all this tract will be made apparent in treating of its geology; but in reference to its valleys, it may be well to remark that it has no doubt been torn by more than one denuding wave, in as much as the great current which has evidently rushed over other portions of the continent has also passed across this tract, and strewed it as we see with diluvium. How many such denudations of the strata have operated to form the present broad valleys of its enormous rivers, or how much of the excavation has been due to the continued action of the rivers themselves, we have, so far at least, no sufficient data to form a decision.

"The extensive denudation of the surface of this plain will be found highly favourable to the accurate development of its geology. It is from this and the accessible nature of its rivers that we already know more of its strata, and especially of its organic remains, than we do of any other district of the country. Its horizontal strata are in many places admirably exposed in the vertical banks of the rivers, often through many miles' extent; and the mass of appropriate fossils thus procured is already far from insignificant. This plain, widening in its range to the southwest, bends round the southern termination of the mountains in Alabama, and expands itself into the great central plain or valley of the Mississippi. The tract in question embraces the greater portion of the newer secondary and tertiary formations hitherto investigated upon this continent; though, notwithstanding the great area it covers from Long Island to Florida, it may yet be found to constitute but a small section of the whole range of those deposits, when we shall, on some future day, have explored in detail the vast plains beyond the Mississippi.

"The ledge of primary rocks bounding the tertiary and cretaceous secondary deposits of the Atlantic plain, may be delineated by commencing at the city of New York, and tracing a line marked out by the falls in nearly all the rivers from that point to the Mississippi. It is thus marked in the falls of the Passaic at Paterson, in the Raritan near New Brunswick, in the Millstone near Princeton, in the Delaware at Trenton, the Schuylkill near Philadelphia, the Brandywine near Wilmington, the Patapsco near Baltimore, the Potomac at Georgetown, the Rappahannock near Fredericksburg, James River at Richmond, Munford Falls on the Roanoke, the Neuse at Smithfield, Cape Fear River at Averysboro, the Pedee near Rockingham, the Wateree near Camden, the Congaree at Columbia or the Falls at the junction of the Saluda and Broad Rivers, the Savannah at Augusta, the Oconee at Milledgeville, the Ocmulgee at Macon, Flint River at Fort Lawrence, the Chattahoochee at Fort Mitchell, &c., deviating thence northwest through the State of Mississippi. Towards the southern termination of this rocky ledge, in Alabama for instance, it does not consist, as it generally does elsewhere, of gneiss, but is formed of the ancient sand-stone and lime-stone of the Alleghanies. It everywhere, however, appears as a natural line of division, of great length and uniformity, separating two tracts of very dissimilar geological age and features. The upper tract, which I have called the Atlantic slope, possesses a very variable width; it is narrow in New York and the New England States, where the mountains approach the coast, and narrow also in Alabama, where they approach the plains occupied by the cretaceous rocks of the south, but is much expanded in Virginia and the Carolinas. Here it has a breadth of about 200 miles, ascending from the tide in an undulating hilly surface, to a mean elevation of perhaps 500 or 600 feet near the mountains. As it approaches these its hills swell into bolder dimensions until we gain the foot of the Blue Ridge or first chain of mountains. It consists almost exclusively of the older sedimentary and stratified primary rocks. This fine hill tract exhibits a marked uniformity in the direction of its ridges and valleys, running very generally northwest and southeast, or parallel with the mountains. The ridges, though not high, are long, and the fertile intervening valleys very extensive. It embraces a variety of fine soils, and an immense water-power in its rivers and running streams."

GEOLOGY.

Having now offered such observations upon the physical geography of the more interesting sections of the United States as were essential to the plan of the present brief description of their geology, we shall enter at once upon our proposed sketch, describing the several regions of the country in the order of the date of the formations they contain, and passing from those of more recent origin, successively to those more ancient in the series.

Before entering upon details relating to strata of tertiary, secondary, or primary dates, we shall offer some facts respecting the period immediately antecedent to the existing order of things, especially in reference to the extinct mammalia of the alluvial deposits of the country. They constitute the link which unites the present with the remote past, and mark an era when the region of the United States had almost ceased to be visited by the violent revolutions of the surface which developed from the deep the pre-existing tertiary and secondary rocks.

"*Fossil Mammalia of the United States.*—The extinct species of the higher orders of animals found fossil in the United States are *Mastodon giganteum*, *Elephas primigenius*, another Elephant (a tooth only being known, differing considerably from the tooth of either the living or fossil species), *Megatherium*, *Megalonyx*, *Bos bombifrons*, *Bos Pallasii*, *Bos latifrons*, *Cervus americanus*, or fossil Elk of Wistar, and *Walrus*.

"Of living species also found fossil, we may enumerate the Horse, the Bison, and three or four species of Deer. The situations in which these have been found have been either very recent undisturbed alluvial bogs, or a slightly disturbed marshy deposit like Big Bone Lick, neither of them covered by the general diluvium; thirdly, boggy beds containing lignite referrible to an ancient alluvium, covered by diluvial sand and gravel; and lastly, the floors of caves, buried to a very small depth with earth not described.

"The largest collections of bone-remains occur in boggy grounds called Licks, affording salt, in quest of which the herbivorous animals, wild and domestic, enter the marshy spot and are sometimes mired. The most noted of these deposits is Big Bone Lick in Kentucky, occupying the bottom of a boggy valley kept wet by a number of salt-springs, which rise over a surface of several acres. The spot is thus described by Mr. Cooper: 'The substratum of the country is a fossiliferous limestone. At the Lick the valley is filled up to the depth of not less than thirty feet with unconsolidated beds of earth of various kinds. The uppermost of these is a light yellow clay, which apparently is no more than the soil brought down from the high grounds by rains and land-floods. In this yellow earth are found, along the water-courses at various depths, the bones of Buffaloes (Bison) and other modern animals, many broken, but often quite entire. Beneath this is another thinner layer of a different soil, bearing the appearance of having been formerly the bottom of a marsh. It is more gravelly, darker coloured, softer, and contains remains of reedy plants, smaller than the cane so abundant in some parts of Kentucky, with fresh-water Mollusca. In this layer, and sometimes partially imbedded in a stratum of blue clay, very compact and tenacious, are deposited the bones of extinct species.' Mr. Cooper has been at the pains to compute, from the teeth and other parts known to have been removed from Big Bone Lick, the number of individuals requisite to furnish the specimens already carried off:

Mastodon maximus	100	individuals,
Elephas primigenius	20	——
Megalonyx Jeffersonii	1	——
Bos bombifrons	2	——
Bos Pallasii	1	——
Cervus Americanus	2	——

and it is probable that some still remain behind.

"It is possible that the Horse ought to be added to this list of animals once indigenous to America. During the early settlement of the country, the great bones were either lying on the surface of the ground, or so near it as to be obtained with very little labour.

"The next most important kind of locality in which such remains are often found, is simply a soft bog or meadow, where most of the finest specimens known in this country have been obtained. As an example of the common condition in which the Mastodon is found, I may describe the situation of one disinterred in 1824 near the sea-coast of New Jersey, three miles from Longbranch. 'The proprietor of the farm, walking over a reclaimed marsh, observed something projecting through the turf, which he struck with his foot, and found to be a grinder tooth. Two other teeth, some pieces of the skull, the spine, the humeral, and other bones, were afterwards found. The soil around was a soft dark peat, full of vegetable fibres. Though the skull and many other bones had been removed before Messrs. Cooper, Dekay, and Van Rensselaer, examined the spot, they were able to behold the vertebral column with all the joints, the ribs articulated to them, resting in their natural position, about eight or ten inches below the surface. The scapulæ both rested upon the heads of the humeri, and these, as in life, in a vertical position upon the bones of the fore-arm. The right fore-arm inclined a little backwards, and the foot immediately below was a little in advance of the other, in the attitude of walking. Ten inches below the surface was the sacrum, with the pelvis united though decayed. The femora were close by, but lay in a position nearly horizontal, the right less than the left, and both at right angles with the spine. Both tibiæ, each with its fibula, stood nearly erect in their natural place beneath the femora, and below them were the bones of the hinder feet in their places: no caudal vertebræ were seen. The marsh had been drained for three years, and the surface had in consequence been lowered about two feet, producing, it has been conjectured, the dislocated attitude of the thigh-bones. Beneath the peaty bed a sandy stratum was seen, and all the feet were noticed to be standing upon the top of this floor of the bog."

"I have already described the nature of the beds in which the antediluvian Mastodon tooth was found at Fort M'Henry near Baltimore; and concerning the bed in which the cave specimens, the Megalonyx, &c., have been buried, I have no information sufficiently satisfactory to offer.

"*Localities of Fossil Mammalia.*—Elephas primigenius: *Big Bone Lick*, Kentucky, the teeth especially in great numbers. *Biggin Swamp*, in South Carolina, teeth eight or nine feet below the surface. (Drayton.) Kentucky has furnished the greatest number of teeth, but South Carolina the largest collection of other parts of the skeleton. (Godman.) *Monmouth County*, New Jersey. (Mitchell.) *Opelousas*, west of the Mississippi, bones and teeth in recent alluvium. (See Durald in *Ann. Phil. Trans.* vol. vi. p. 55., also Darby in Mitchell's translation of Cuvier's *Theory of the Earth.*) *Stone* in *Carolina*, teeth. (Catesby.) *Queen Anne County*, Maryland, a grinder, differing considerably from the tooth either of the living or fossil species, in stiff blue clay by the side of a marsh.

"Mastodon maximus: *Big Bone Lick*, Kentucky, in a dark-coloured marsh, the upper stratum somewhat gravelly, the substratum a blue tenacious clay, both imbedding bones; over all a light yellow soil, brought apparently from the adjacent high grounds: all the larger bones broken as if by violent action (Cooper).

"The remains of Mastodon are found indeed in nearly all the *Western States* in bogs and soft meadows uncovered by any diluvial stratum. *White River*, Indiana, upper jaw and teeth. (Mitchell.) The marshes and bogs near the *Wallkill*, west of the Hudson, New York. This vicinity yielded the first and finest skeleton yet procured, viz. the magnificent specimen in the Philadelphia Museum. (Peale.) Also on the *North Holston*, a branch of the Tennessee river. *Carolina*, bones, &c., in a morass like the rest. (Jefferson's Notes on Virginia.)

"Again, in *Wythe County*, Virginia, at five feet below the surface, near a salt-lick, a large number of bones, almost an entire skeleton, was found, said to have been accompanied by a mass of triturated branches, leaves, &c., enveloped in a sac, supposed to be the *stomach*, not however correctly. (See Godman's *Nat. History.*) *Chester*, Orange County, New York, in a peat bog, four feet beneath the surface, many fine fragments. (Mitchell.) On the York River some fine members of a skeleton were found, in marsh mud, surrounded by roots of cypress trees. (Madison, *Medical Repository.*) On the *coast of New Jersey*, near Longbranch, in a bog, almost an entire skeleton, in the natural erect posture, the head hardly below the surface. (Cooper's *Annals of the New York Lyceum.*) In *Rockland County*, New York, grinders three feet deep in mud. (Mitchell.) Near *Baltimore*, at Fort M'Henry, in digging a well in the Star Fort, in a stratum of marsh mud, nearly sixty feet below the surface, under a layer of diluvium. (Hayden's *Geol. Essays.*) Remains of Mastodon abound at the Salines (Licks) of *Great Osage River* to as great an extent, it is said, as at Big Bone Lick, or around the Wallkill. (Godman.)

"Megatherium. Fragments of at least two skeletons in recent marsh, *Skidaway Island, Georgia.* (Cooper.)

"Megalonyx. A fragment of an arm or thigh-bone, a complete radius, an ulna, three phalangal claw-bones, and some bones of the feet, found about thirty feet below the surface of the floor of a cavern in Green Briar County, Virginia. (Godman.) *Big Bone Lick* has furnished a large humerus, a metacarpal bone, a right lower maxillary bone with four teeth, a detached molar tooth in good preservation, a clavicle, a tibia of the right side. (Cooper.) Megalonyx bones have also been found in *White Cave*, Kentucky.

"Bos bombifrons: two heads at *Big Bone Lick.* (Harlan's *Fauna Americana;* Wistar's *Trans. American Phil. Society.*) Bos Pallasii, Dekay: a head, *Big Bone Lick*, also

New Madrid, on the Mississippi,—closely resembles *Bos moschatus*. Bos latifrons (Harlan): a portion of a skull, ten miles from Big Bone Lick: Cuvier allies it to the *Bos Urus* of Europe.

"Cervus Americanus (Fossil Elk): two imperfect skulls, *Big Bone Lick* (Cooper). Horse: *Big Bone Lick* (Cooper), *New Jersey* (Mitchell). The existence of the Horse previous to the occupancy of this country by the Europeans, is not well established by the occurrence of its remains, though the evidence is in favour of the opinion. Walrus: anterior portion of the cranium, fossil, from *Accomac County*, Virginia. Not known whether it belongs to the living species. This animal has not been seen on the American coast south of lat. 47°. (*Annals of the New York Lyceum*, vol. ii. p. 271.)

"It was suggested, first, I believe, by Mr. Vanuxem, that all the bones of the Mammoth and other extinct quadrupeds of this country yet found, have been in either the ancient or modern alluvium. Some have been inclined to attribute them exclusively to the catastrophe which has strewed the surface of this continent with transported blocks and gravel, or have supposed, in other words, that the races perished by that diluvial action which I have before shown to have occurred, after the period of the ancient alluvium, and prior to the recent. Notwithstanding the extreme neglect which has been hitherto evinced in recording the geological situation of the interesting organic remains of the extinct Mammalia of this country, sufficient information has been collected to enable us to reason, I think with some certainty, concerning the date of their disappearance.

"It will be observed that we have authentic accounts of the remains of extinct Mammalia under two entirely dissimilar situations. In one case, as in the Mastodon tooth discovered near Baltimore, the fossil occurs in an ancient bog, covered by a thick bed of sand and diluvium. This is one of the deposits which I have called ancient alluvium, and which seems to belong to some era of the tertiary period, but what precise epoch is at present quite uncertain. Another set, apparently consisting of the very same species, occurs in the most recent class of bogs and marshes, buried to a very slight depth beneath the surface. The latter is the situation in which by far the largest number of Mastodon, Elephant, and other bones have been found. These newer bogs or marshes are in no case seen to be covered by any diluvial matter, but appear, on the contrary, from their low level and their wet state, being often traversed by streams, to have experienced little or no change since the fossil relics were originally entombed in them. In the regions beyond the Alleghanies, most of these remains occur in spots which are called Salt Licks; these are meadows and swampy grounds where the soil on the surface of the ground is impregnated with muriate of soda, from the springs which empty themselves from the muriatiferous sand-stones which abound in the Western States. Big Bone Lick, in Kentucky, is an example of one of these. Here have been found not only vast numbers of the fossil bones of the extinct races, but quantities almost as great of the Buffalo, besides many of two or three species of Deer, now, like the Buffalo, indigenous to the country. This, therefore, would appear to have been resorted to not only in modern times by the living races, but more anciently by animals now extinct, for the salt, and it may be for the food and pleasant coolness produced by the marsh. Our travellers to the western regions, where the Buffalo or Bison now ranges, have daily opportunities of witnessing these animals entrapped and perishing in these licks and swamps; and it seems evident that the Mastodon and Elephant of former times, from their huge size and unwieldy forms, must have been equally exposed to the same fate. Granting such to have been the chief cause which has buried these races, we see at once why such remains are found only in meadows or soft places, why they occur at such small depths, and why in so many cases the head has been seen resting nearly on the surface of the marsh; the cranium universally decayed; and the skeleton either in its natural erect position, or the ponderous bones below, and the ribs and vertebræ above. (See *Annals of the New York Lyceum*, vol. i. p. 145., also *Ossemens Fossiles*, 2d edit. tom. i. pp. 217, 222.)

"The state of perfect preservation in which so many of these bones are found, is another argument that the animals have perished by such a cause, and not by any violent catastrophe. There is at present in the Philadelphia Museum a pair of magnificent tusks of the Mastodon, so little acted on by time, that the beholder almost fancies he sees the marks and scratches on the enamel which it received in the living state. These beautiful remains were found by a countryman in Ohio when digging an ordinary ditch in his meadow, so that it is probable that the rest of the skeleton lies near, and at very little depth. From all the facts before me, I have little hesitation in giving my opinion that the extinct gigantic animals of this continent, the Mastodon, Elephant, Megalonyx, Megatherium, fossil Bos, and fossil Cervus lived down to a comparatively recent period, and that some of them were in existence as long ago as the era anterior to that which covered the greatest part of this continent with diluvium.

"Two interesting conclusions seem here naturally to suggest themselves: first, that the diluvial catastrophe, whatsoever it may have been, could not have introduced any very material change of climate or condition upon the continent, or we should have beheld the races sooner extinguished; and, secondly, that the physical features of the surface were the same or very nearly the same when the Mastodon lived as now; so that his extinction seems neither traceable to violent revolutions, so called, nor to any decided change of climate; which, seeing that no appreciable change of physical geography has taken place since his day, ought to remain the same now as when he formerly stalked through the continent, and perished in the same morasses which at this day entrap and bury less gigantic living races of animals.

"It may seem at variance with what I have here advanced of the recent and tranquil extinction of these animals, that in the enormous accumulation of their relics at Big Bone Lick, the boggy matter should be found partially filled with gravel, and the larger bones universally fractured. However, the small amount of gravel described as mingling with the peaty mass, seems hardly to imply that this spot was visited at this time by any violent action, such as covered the adjoining hills with their boulders and gravel; so that, on the whole, I am most inclined to explain the fractured condition of the jaws, femora, &c., by the constant treading and floundering of the huge animals over the skeletons of their ancestors."

Tertiary Formations.—Proceeding now to the tertiary group of strata, we shall aim at presenting a brief account first of their range and next of their more striking geological relations and characters.

"The tertiary formations yet known to us, are confined almost exclusively to the Atlantic Plain of the United States, and to the southern part of the great central valley or basin of the Mississippi. The lines along which these formations have been traced in the valley of the west are few and far apart, so that our present survey is chiefly confined to the tide-water plain along the Atlantic.

"The northern limit of the tertiary formations, as far as at present unequivocally ascertained, is in the southeastern corner of New Jersey, adjacent to the Delaware Bay. Here it appears to compose the greater part of the country lying near the waters of Stow Creek in Cumberland county. From that point it is believed to extend almost continuously through the eastern portions of Delaware, Maryland, Virginia, and North Carolina, and in interrupted patches still further south through South Carolina, Georgia, Alabama, and Mississippi into Louisiana and the southern territory west of the Mississippi river. Adopting the modern improved nomenclature of Lyell, we find in the region here mentioned, formations which fairly belong to all the four periods into which that eminent geologist has divided the tertiary deposits of Europe. The number of well characterised species of shells in the American tertiary strata is amply sufficient to enable us following the principles of Lyell's classification to determine their degree of identity with the shells of the present day which inhabit the neighbouring shores of the Atlantic. From this comparison it has been shown that deposits of the newer and older pleiocene, meiocene and eocene periods all occur. Beginning with the most recent, we find first—

The Newer Pleiocene.—Mr. Conrad, who was the first to point out the existence of so very modern a formation in the United States, thus describes the only newer pleiocene beds yet truly ascertained. They are to be met with near the mouth of the Potomac river in St. Mary's county, Maryland.

"About three miles north of the low sandy point which forms the southern extremity of the peninsula, the bank of the Potomac rises to an elevation of about fifteen feet at its highest point: the fossils are visible in this bank to the extent of a quarter of a mile. The inferior stratum is a lead-coloured clay, containing vast numbers of the *Mactra lateralis* of Say, which in many instances appear in nearly vertical veins, as though they had fallen into fissures. The *Pholas costata* is also numerous, and each individual remains in the position in which the living shell is usually buried in the sand or mud; that is, vertical, with the short side pointing downwards: they are so fragile, that they can rarely be taken entire from the matrix. Upon this stratum of clay, in a matrix of sand, lies a bed of the *Ostrea virginica*, in some places a foot in thickness. It is nearly horizontal; in some places at least eight or ten, and in others not more than four feet above high-water mark. The diluvium above exhibits a vein of small pebbles, traversing it horizontally, and at a distance resembling a stratum of shells. Not only are the fossils in this locality the same as existing species, but in some instances they retain their colour; a circumstance common to the later deposits of Europe. The distance from the nearest point on the Atlantic Ocean is about forty-five miles, but it is at least one hundred by the course of the bay. It will be observed, that nearly all the shells are known to inhabit the shores of the United States at the present time: those of them which are now only known in the fossil state are extremely rare, or of minute dimensions." (*Journal of the Academy of Natural Sciences.*)

Geographical Range of the Older Pleiocene and Meiocene Formations.—"Commencing in the southern extremity of New Jersey, these tertiary beds show themselves in a wide, and at present an undefined belt, contiguously through Delaware, Maryland, Virginia, and North Carolina, in the southern part of which last State, and in part of South Carolina, they only occur in interrupted patches, thinning out and disappearing altogether after reaching the Santee River in South Carolina." There is but little reason for believing that north of North Carolina any portions of the tertiary formations are to be met with, which strictly refer themselves to the older pleiocene period. In New Jersey, Maryland, and Virginia, the proportion of recent to extinct species among the fossils hitherto discovered, does not in the average exceed 20 and 25 per cent., which, therefore, places their origin in the meiocene era.

The principal mass of the tertiary in *New Jersey* is in Cumberland County, upon Stow creek. Of the small collection of shells hitherto found there, twelve species are extinct to one recent, which furnishes a proportion that if at all correct will mark the deposit to be of the meiocene period.

In *Delaware*, similar meiocene fossils have been seen, especially near Cantwell's Bridge, but to what extent the formation prevails is yet unknown.

In *Maryland*, meiocene strata occupy nearly the whole of the country upon both sides of the Chesapeake, south of a line through Cecil County to the Potomac, a little below Washington City.

In *Virginia*, they prevail over the entire eastern section of the State, from the Ocean to within a few miles of the edge of the primary rocks, which bound the Atlantic plain. The average breadth of the deposit here is about sixty miles.

North Carolina appears to contain both the older pleiocene and meiocene strata, but the precise range of the tertiary across that State is not satisfactorily ascertained. In the vicinity of Newburn nearly two-thirds of the fossil shells are of species at present in existence; this denotes an origin during the older pleiocene period.

In *South Carolina* neither the pleiocene nor meiocene has been met with south of Vance's Ferry on the Santee River, nor do they appear to exist in Georgia, Alabama, or Mississippi. "From New Jersey to North Carolina, there is every reason to suppose, that the greater part of the tertiary tract now spoken of will furnish even a less proportion of living species than *one-fifth*, while the tertiary beds in North Carolina contain nearly *two-thirds* recent species. The former is therefore clearly a meiocene region, while a portion at least of the latter is of older pleiocene date. The total number of species of shells collected from the meiocene is upwards of 200, about 40 only being living shells, all inhabitants of the adjacent coast. The following description of the meiocene beds as they occur in Virginia, is characteristic of the formation generally as seen in the other States.

"The materials with which the shells are intermixed, or in which they are imbedded, have various characters. In some cases they consist principally of a nearly white sand; in others the argillaceous matter greatly predominates, and the mass is a somewhat tenacious clay. Frequently much oxide of iron is mingled with the earthy matter, giving it more or less of a yellow or brown appearance, and this is the aspect which the upper beds containing shells most usually present. Very generally the lowest visible fossiliferous stratum is composed of a green silicious sand, and a bluish clay, which being always very moist, is soft and tenacious, and presents a dark blue or black colour. At the base of the cliffs on the James and York rivers, this stratum may be traced continuously for considerable distances, rarely rising more than two or three feet above the level of the water, and presenting an even horizontal outline. In the deep ravines, and low down in the banks of shells, generally, throughout this region, a similar dark bluish green argillaceous sand is observed, enclosing frequently a great number and variety of shells. This constitutes what is usually denominated *blue marl*, which from the soft condition of the shelly matter which it contains, as well as the predominance of clay in its composition, is found peculiarly beneficial when applied to the more arenaceous varieties of the soil. Many highly valuable marls extensively in use are of this description.

"The very general existence of the lower stratum, above described, forms an interesting and prominent feature in the geology of the meiocene tertiary districts, as well of eastern Virginia as of Maryland. Throughout all the upper fossiliferous strata, as well as in the argillaceous beds just mentioned, will be found disseminated, greenish black grains of the green-sand, having the same form and composition with the granules contained very abundantly in an older formation, both in this country and in Europe. In some beds of the marl or shells, these particles so abound as to give a very decided colour to the whole mass. The surface of the strata containing shells is usually irregular. Sometimes it rises abruptly, in the form of a hillock, then it is scooped out into depressions of a few feet in depth. These irregularities, however, are apparently of two kinds; the one the original form of the deposit, the other produced by denuding action upon the surface." (*Rogers' Report on the Geological Reconnoissance of Virginia.*)

Eocene.—This subdivision of the tertiary is found along the western limit of the Atlantic plain, in a belt of from 10 to 20 miles broad, between the primary and secondary rocks, and the meiocene strata, from beneath which the formation in question rises westward with a very gentle inclination. Going south it is first seen in Maryland between the Chesapeake Bay and the Potomac River, where it is well exposed at Fort Washington and other localities. The lower or eastern limit of the eocene crosses the Potomac near Matthias Point, and pursues a course almost due south, crossing the Pamunkey below Piping Tree and the James River, at Coggin's Point, and thence extending south in a line not yet precisely determined. Its usual boundary on the western side is the previously defined line of older strata skirting the edge of the Atlantic plain. Thus far in its range the eocene deposits are beds containing chiefly a loose mixture of various coloured sands and clays abounding in ferruginous matter, and often a considerable quantity of the remarkable fertilizing mineral granules called green sand. The stratum has sometimes a yellow or brown colour, from the presence of a large quantity of the oxide of iron; its more characteristic aspect, however, is a dull lead colour or a bluish green. Layers of fossil shells frequently impart to the mass a considerable share of carbonate of lime, minutely distributed in a chalky state, which, by virtue of well known chemical actions, caused by the presence of decomposing sulphuret of iron, is not unfrequently replaced by more or less sulphate of lime or gypsum. These ingredients, the green sand, the carbonate of lime, and the gypsum, confer upon parts of the deposit an extraordinary fertilizing agency, whence, as in the case of some very analogous beds of the secondary cretaceous series, the material is entitled "marl," and in Virginia is extensively employed as such.

The deposit is not always a soft mass of sand and clay, but contains thin calcareous strata, in the state of a firmly cemented rock, imbedding a profusion of the fossils characteristic of this portion of the American tertiary.

Tracing the eocene south of Virginia, we find it appearing occasionally in North and South Carolina in a narrow belt. It crosses the Savannah River in Georgia at Shell Bluff, 15 miles below Augusta, and shows itself at Silver Bluff and other points over a space of 40 miles along the valley of the same river.

"According to Mr. Vanuxem, Shell Bluff is about 'seventy feet high, formed of various beds of impure carbonate of lime, of comminuted shells, and having at its upper part the *Ostrea gigantea?* in a bed nearly six feet in thickness.'

"The eocene formation appears on the Oconee, below Milledgeville, judging from a few fossils which have been sent from that vicinity. The matrix is calcareous, whitish, and very friable. We know nothing of its appearance on Ocmulgee and Flint rivers, but it has been observed in various parts of Early county, and it occurs at Fort Gaines on the Chattahooche, where it constitutes a bluff from 150 to 200 feet in height, which has a close resemblance to that at Claiborne. Its extent on the river is about one mile.

"In Georgia it is common to find the fossiliferous beds of the eocene developed as a pure siliceous rock or buhr stone. The calcareous and other matter originally in the rock has all disappeared and been replaced by silica, preserving, however, the casts of shells so perfectly that they may often be readily recognised.

"The eocene next appears in Wilcox county, Alabama, in the state of a hard dark-coloured sandstone, containing the characteristic shells, which are not mineralized at all, but are chalky and imperfect. This formation only extends eight or nine miles along the Alabama river. Claiborne Bluff is about one mile in length: a similar bluff, of equal extent, occurs three miles below, and about three or four miles south of this the deposit terminates in a bluff of less elevation. Here the upper bed is characterized by *Scutella Lyelli* (Conrad), the stratum being about three feet in thickness, with a matrix of angular quartzose sand, tinged by oxide of iron. Nearly the whole country in the vicinity of Claiborne is secondary, the eocene having been traced only about one mile east of the village, in the banks of a small creek. The ridge dividing the waters of the Alabama and Tombeckbee, also secondary, is composed of cretaceous limestone, full of *Nummulites Mantelli* (Morton). St. Stephens, on the Tombeckbee, is situated on a bluff of the same, about one hundred feet in height; but the eocene appears a short distance north of it, separated from the secondary by a strip of alluvial soil. Here, however, the two upper strata only are visible, the superior bed of limestone being but a few feet in thickness, whilst at Claiborne the corresponding one is about forty-five feet thick. The arenaceous stratum is precisely similar to that of Claiborne, but the fossils are not so well preserved, and are chalky and friable. We know of no locality west of this, in Alabama or Mississippi, where the eocene formation occurs; but on the Washita river, near the town of Monroe, it is associated with the strata of the cretaceous group, as Mr. Conrad ascertained by examination of some fossils sent to the American Philosophical Society by Judge Bry. The most abundant fossil of the eocene at this place appears to be *Corbula oniscus* (Conrad), a shell very common in the arenaceous strata at Claiborne. Among more than two hundred species of shells at Claiborne, there is not one which is identical with a fossil of the meiocene of this country; *one only is even an analogue:* not one can be referred to any recent species, much less to a native of the coast of the United States."

The total number of eocene fossil shells is about 210, nearly all the species being from a single locality, namely, Claiborne, Alabama. Other deposits, as that of St. Stephens on the Tombeckbee, present a large collection of species also, but they have been found not to differ from the species at Claiborne.

It is remarkable enough that the older tertiary or eocene strata of Alabama contain a profusion of specimens of four *secondary* species, and yet possess not one species common with the meiocene. This is just the reverse of what occurs among the corresponding formations in Europe, the eocene and meiocene being connected by 42 species common to both, out of 1238 belonging to the eocene, and the secondary and eocene strata having produced none identical between them. From this, and from the interesting fact, that most of the American formations of this period contain not a single known recent species, it seems evident that these tertiary strata of the Southern States assume an earlier position in the American eocene period than the beds of the Paris basin occupy in the eocene period of Europe. A fact not less curious and unexpected is, that out of about 210 eocene fossils from Alabama, not more than six are discovered to be common to the same period in Europe.

The occurrence of a recent species, the *Venus mercenaria*, in the eocene of Maryland, and the fact that none of this formation, in either Maryland or Virginia, has ever been seen to contain a single secondary fossil, would serve to show that this part of eocene is of rather more recent origin than the more calcareous beds of this formation found in the south.

Secondary Formations.—Formations of the secondary class occupy by far the largest portion of the territory of the United States. But the series is by no means as full upon this side of the Atlantic, as it has proved to be in Europe. Formations pretty nearly equivalent to some of the superior or more recent secondary European groups do occur and under interesting analogies, while an enormous series of strata referrible to the period of the carboniferous rocks, and to the groups of still more ancient date which are placed between these and the primary class, prevail very widely, composing much the most extensive portion. There exists a wide gap or hiatus in the middle part of these American secondary rocks, owing to the absence of any hitherto discovered strata resembling in date the new red sandstone groups, and even probably the greater part of the oolitic group of Europe. If we carry our attention, it is true, to regions far west of the Mississippi, then perhaps this vacant interval in the series will be found to be represented; but eastward of that limit no equivalents to the new red sandstones of the Old World have yet been established upon any adequate grounds of proof. The red shales and sandstones of the Connecticut valley regarded by some geologists* as of this formation, and the belt of similar rocks traversing the middle States, possess a date which we consider to be as yet entirely undetermined.

Secondary Formations of the Cretaceous Period.—Fossiliferous strata referrible to the newest secondary or cretaceous period occur in New Jersey, Delaware, Maryland, North and South Carolina, Georgia, Alabama, Mississippi, Tennessee, Louisiana, Arkansas, and Missouri. Though first displayed unequivocally in New Jersey, there is but little doubt that these strata are continued beneath Long Island, and even under Martha's Vineyard. In New Jersey, where they have been chiefly studied, and where in consequence of the peculiar value of certain of their mineral ingredients in agriculture, they characterise what is called the "marl tract" of the State, they occupy a belt of country having the following boundaries. A line commencing near Middletown Point and passing in the neighbourhood of Mount's Mills, Allentown, Crosswicks, Burlington, Moorestown, Woodbury, and Sculltown, to Salem, forms the northwestern limit. While on the southeast, the boundary, though less accurately determined, may be traced from the Atlantic coast near Deal towards Squankum, and from thence east of New Egypt and Vincentown, past Blackwoodtown and Woodstown, to join the first line near Salem. The formation then stretches across the State of Delaware and into Maryland as far as the Sassafras River on the Eastern Shore. Rocks of the same secondary period but of a distinctly different mineral character appear at Ashwood and Wilmington on the Cape Fear River in North Carolina, and there is reason to believe that their breadth in this State is in some places very considerable. In South Carolina they are seen on Lynch's Creek and on the Pedee and Santee Rivers, as well as in the region west of the city of Charleston. Further south they occur at Sandersville in Georgia. These cretaceous rocks occupy a large extent of region in Alabama, composing, according to Conrad, the chief part of the counties of Pickens, Bibb, Greene, Perry, Dallas, Marengo, Wilcox, Downes and Montgomery, and portions of Clarke, Monroe and Conecuh.

The Tombeckbee and most of its tributaries run entirely through a region of which these rocks form the substratum, and we may infer from the statements of travellers that the countries of the Chickasaws and Choctaws, and indeed nearly the whole State of Mississippi, are of the same formation. In the southwestern portion of Tennessee, Louisiana between Alexandria and Natchitoches, and on the Washita River, and in Arkansas on the calcareous platform of Red River, these rocks are known to exist and probably occupy an extensive area.

The cretaceous formations thus traced, though certainly referrible to the same period, present such marked differences of mineral and fossil constituents when the northern and southern localities referred to are compared, as to make it proper to distinguish them into two classes. The first or green sand formation occupies the northern portion of the cretaceous region, extending through New Jersey and Delaware to the point before mentioned in Maryland. It consists of strata of a friable material, more or less arenaceous or argillaceous in its texture, of a dark greenish or bluish colour, including bands or layers rich in a peculiar fossil, and characterised by the presence generally in large proportion of the peculiar mineral before referred to under the name of green sand. The other, or calcareous formation, is found throughout the southern and western portions of the region which has been described, and consists of limestone of various degrees of hardness, more or less abundant in fossils, and having the particles of green sand only sparsely disseminated through the mass.

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* See Hitchcock's Report on the Geology of Massachusetts.

"Limestone strata, however, seem to compose nearly the whole of the cretaceous group in the southern States, where they exist on a scale of vast extent and thickness, rising into bold undulating hills, which resemble in their features the surface of the chalk in Europe, and seldom or never repose upon the sands which form their substrata in New Jersey. In Alabama, Mr. Conrad states this formation to constitute nearly the whole bed of the country, the eocene occupying very limited patches in the valleys of some of the rivers. Generally throughout Georgia and the States south and west of it, these limestones are developed as two distinct strata. That which is universally superior in position is a very white friable limestone, containing many casts of shells peculiar to itself, while beneath this is a compact bluish limestone, alternating with friable limestone and with greenish siliceous sand, which is indurated into a rock, and contains fossils and the peculiar green particles of silicate of iron. The thickness of the lower deposit is stated to be about 300 feet on the Alabama river. Its characteristic fossil is the *Exogyra costata*, the same shell which is so remarkably distinctive of the marl beds in the ferruginous sand formation of New Jersey and Delaware.

"In some places, as in Wilcox county, Alabama, this lower limestone is seen to rest upon a still inferior bed of a friable greenish sandstone, containing fossils, especially the *Ostrea falcata*, and also presenting, like the limestone above it, some of the green grains everywhere characteristic of these cretaceous formations.

"These arenaceous strata compose the chief mass of the secondary deposits in New Jersey, being but partially overlaid by the very thin calcareous strata before mentioned. The mineralogical character of this deposit is extremely variable, though the most usual constituents are the following: 1st. Siliceous sand, mostly yellowish and ferruginous, though sometimes of a green colour, answering to the *glauconie sableuse* of Brongniart. These sands occasionally occur in indurated strata containing fossils, when they form a rock precisely the same in all respects as that which underlies the limestone in Alabama. 2dly. The peculiar greenish chloritic grains of the green sand formation of Europe. This mineral exists generally in the shape of small grains of about the size and form, and not unfrequently of the dark plumbago colour, of gunpowder. Sometimes it has a rich warm green, but more commonly an olive gray or dull blue, or even a very dark chocolate colour."

The grains, although they contain about 50 per cent. of silica, are not gritty, can be easily bruised between the teeth, and when moistened some varieties can even be kneaded into a somewhat plastic mass. A heap of this marl, as the granular mineral is called by the inhabitants of New Jersey, after being somewhat exposed to the air, frequently contracts a light gray hue, from the exterior grains becoming coated with a white inflorescence, which, from some observations I have made, is carbonate and sulphate of lime. The following analysis by Mr. Seybert presents a fair average of the composition of the green grains:—silica 49.83, alumina 6.00, magnesia 1.83, potash 10.12, protoxide of iron 21.53, water 9.80; loss 0.89 = 100 grains. Other analyses show occasionally as much as 5 per cent. of lime.

Mica in minute scales mingles not unfrequently in the less pure varieties of the marl, which often contains more or less blue clay.

"Once or twice, in examining a mass of these mineral grains, I have detected numerous minute spicula of selenite. Almost every large heap of the marl exhales a distinct odour, closely resembling sulphur. These mineral grains occur in greater or less proportion in nearly all the strata, both arenaceous and calcareous, of the formation; but what is remarkable, they occur almost alone, in a homogeneous deposit, which seems to underlie nearly the whole secondary tract of New Jersey, the stratum averaging more than twenty feet in thickness."

It is this stratum which is especially called the marl, rather from its highly fertilizing action upon the soil than for any resemblance it has to marl strictly defined.

The diversified deposits of sand, clay, green-sand limestone, and sand-stone composing the cretaceous series in New Jersey, assume a great variety of aspects resulting from their almost endless intermixture and their various degrees of induration. The most fossiliferous beds are those consisting chiefly of the green sand, and next the thin calcareous stratum.

The organic remains include several interesting genera of extinct saurians, also relics of the tortoise, of the shark, and other fishes, besides a tolerably large list of shells, zoophytes, and echinodermata. The total number of the "three latter classes described by Dr. Morton in his Synopsis of the Organic Remains of the Cretaceous Groups of the United States, is 108 species. Two of these belong to genera which are new, while but a solitary species, the *Pecten quinquecostatus*, proves to be common to these strata and their equivalents in Europe. This last fact is certainly not a little curious, as it goes to show that the organic races of remote regions differed as much during the latter periods of the secondary era as during the more modern interval of the tertiary formations.

Comparing the organic remains of this cretaceous series of the United States, it appears that out of 102 species of shells and echinodermata 14 species are peculiar to the upper formation of the limestone series of Alabama, while only two or three that belong to this have yet been found in the green sand beds of New Jersey. We discover however that a much larger number belong in common to the New Jersey deposits and the lower limestone formation of Alabama.

Subtracting the above 14 species in order to make the comparison between the New Jersey green sand series and this lower limestone of the south, we have left of the two classes of fossils 88 species. Out of these 88 species, 39 are peculiar to the marl or green sand formation of New Jersey and Delaware, 32 to the older southern calcareous rocks, and 17 only are common to the two. These numbers show a want of identity in the fossils of the two regions worthy of notice.

Another striking peculiarity, and one which marks, no less than the profusion of the green-sand, the want of resemblance between these American strata and those of like age in Europe, is the absence of any true chalk deposit. There would appear to be no sufficient evidence of the existence of this remarkable formation in any known region of North America.

Rocks of a date intermediate between the Green Sand and Bituminous Coal formations.—No fact in the Geology of the United States is more remarkable, than the extreme scarcity of strata occupying, by the indications of their organic remains, a middle place in the series between the cretaceous or green sand rocks and the rocks belonging to the date of the coal. It is but very lately indeed that adequate proof has been furnished of the existence of any such in the country. Recent explorations in Virginia, have brought to light, however, some interesting facts in regard to a group of sand-stone strata, tending strongly to establish for them a date somewhat older than that of the green-sand. The formation in question extends from a point on the Potomac river somewhere near the mouth of Occoquan, in a direction a little west of south, to the Rappahannock, and thence nearly due south across the State of Virginia. It occupies a narrow belt rarely more than a few miles across, resting upon the eastern edge of the primary region, and disappearing generally beneath the tertiary beds of the Atlantic plain, along the western edge of which it ranges. The composition of the rock is such as to have procured for much of it the title of freestone. It consists of grains of sand more or less firmly aggregated together with decomposed felspar, having sometimes the texture of a pretty fine-grained building-stone, for which it has been very extensively employed in the public edifices at Washington and elsewhere, under the name of Acquia Creek freestone. Some parts of the formation have a very heterogeneous composition, but the cementing matter in which the more solid particles lie, is almost invariably felspar in the state of kaolin, or fine white clay. Nodules of bluish white clay, of considerable size; are not unfrequent, and it often has the characteristic of a coarsely aggregated conglomerate, the pebbles being chiefly quartz.

The most interesting feature attending these strata, besides their fitness for architectural uses, is the nature of their fossils. So far as discovered, they are exclusively vegetable, but consist of relics of plants distinctly different from those characteristic of the coal formations. The fossil which most plainly points out the place in the series to which the rock is to be referred, is one of the fossil cycadea, a very gigantic specimen of the trunk of which, besides portions of fronds, have been found in the vicinity of Fredericksburg. These seem to intimate the great probability that the formation belongs to a period approximating to that of the Oolite group of Europe. Impressions are numerous of the cones and other portions of trees of the order of the coniferæ, an enormous trunk of one of which was exposed completely silicefied in the same quarry with the fossil cycas.

In no other part of the United States has any formation been yet disclosed possessing a claim to the same position in the series. Another and much more extensive group of strata has been attributed to a date somewhat more ancient than this, namely, to the new red sandstone period. This formation occupies a narrow belt of country, ranging for many miles along the valley of the Connecticut river. It comprises red, soft argillaceous shales and harder red sand-stones, and near the top of the series a coarse variegated conglomerate made up of a vast assemblage of pebbles of primary and other rocks.

None of the fossil remains, vegetable or animal, hitherto derived from this formation, is thought to be decisive as to the period of its production, though Prof. Hitchcock and some other geologists conceive it to rank with the new red sand-stone of Europe. We regard it as extremely probable that this red sand-stone belt of the Connecticut, is only an interrupted prolongation of the very extensive red shale and sand-stone group of strata, which stretch from the Hudson river to the southwest, and traverse New Jersey, Pennsylvania, and Maryland to the Potomac. The variegated conglomerate which goes under the name of Potomac marble, from the fact that some of it on the Potomac has been made use of as an ornamental marble for the columns in the capitol at Washington, comes from the range of strata last spoken of. Both in the States enumerated and in Connecticut, these strata are intersected by long ridges of trap: the principal masses of this rock in the country, and what is not a little remarkable, nearly all the localities of *copper ore* within this tract, are adjacent to these outbursts of the trap-rock.

Though we do not pretend to fix the precise date of these formations, considering them, from the absence of all distinctive organic remains, and from their reposing unconformably upon some very ancient fossiliferous rocks, as of an era yet undetermined, we shall take this opportunity of sketching their range and extent. Commencing on the Potomac, or more properly further south in Virginia, they pass through Frederick county, Maryland, into York county, Pennsylvania, and thence across the Susquehanna below Harrisburg, whence they extend more to the eastward to Bucks county, on the Delaware, where entering New Jersey, they form a very wide belt lying southeast of the primary hills, called the Highlands, along the whole of their range to the Hudson river.

Similar, and we consider identical strata, occupy a narrow belt along the Connecticut river, from New Haven north to near the northern boundary of Massachusetts. Near Northampton and other places in this State, some very singular impressions occur in the sandstone, apparently organic, and referred by Professor Hitchcock to tracks left by the feet of extinct and gigantic races of birds of the wading class. Remains of fishes have also in a few instances been found, but we believe no shells have yet been seen anywhere within the wide range of these argillaceous strata.

Rocks of the Carboniferous Period.—Though it is impossible, owing to the little that has been hitherto effected in the investigation of the ancient secondary fossils of the United States, to pronounce with absolute positiveness regarding an identity of date between the coal-bearing strata of this country and of Europe; still enough is known to justify us in placing the bituminous coal series of America in the same general period which embraces the carboniferous rocks of other countries.

The vegetable organic remains, with a few exceptions, are the same, and a like general agreement appears to subsist among the relics of the animal kingdom. The same genera, and a number of the same species prevail in the strata on the two sides of the Atlantic, but much remains to be done ere geologists can state the interesting conclusions which must spring from a more precise comparison. The anthracite-bearing rocks of the United States occupy obviously a lower place in the series, and appear, in certain sections at least, to underlie the other groups in a non-conformable position; but what exact interval separates these two series has not yet been ascertained, though the organic remains of the anthracite series, as far as they have been studied, indicate pretty strongly that the date of this older variety of coal was nearly equivalent to the period of the upper greywacke rocks of Europe. We shall, therefore, speak of the two coal-bearing groups under separate heads, and proceed to describe briefly the most recent or bituminous coal strata.

Setting aside for the present the two or three insulated small coal fields lying nearer to the ocean, the coal regions of the United States, both the bituminous and the anthracitic, lie all westward of the primary belt which ranges between the Atlantic plain and the mountains. In the triple subdivision which we have ventured upon of the mountains south of the Hudson, the eastern or Blue Ridge system, comprising rocks either of the primary class, or of a very ancient secondary date, may be described as destitute entirely of any coal formation; the middle, or Appalachian ranges, embrace the strata of the anthracite group, while the mountains still further west, the true Alleghanies, contain the vast bituminous coal formation, which, also spreading to the westward, over an enormous area, is traceable as a single geological formation occupying nearly the whole of the wide region to the Mississippi.

We may delineate the eastern boundary of this great bituminous coal formation, by commencing near the northeast corner of Pennsylvania, and pursuing a southwest course, following the ridge of the Alleghany mountain across that State and across Maryland; in Virginia, the Eastern Front Ridge of the Alleghany, the Greenbriar mountains, and the Flat-top mountain, beyond which we trace it through Middle Tennessee to its termination near the Black Warrior river in North Alabama. The northern and western limits are not so well defined; but we may lay it down as pretty certain that strata of this epoch, though with little or no indication that they contain coal, spread through some of the central and western counties of New York, while coal-bearing strata are traceable westward to a region in the State of Missouri, more than 200 miles west of the Mississippi. In Alabama and Tennessee the breadth of the formation is greatly less, as it does not reach to that great river, but forms a belt running through the middle of the latter State, expanding towards the north. Coal measures comprise nearly all the territory of Pennsylvania westward of the Alleghany, if we exclude a narrow unproductive belt bordering on the State of New York and on Lake Erie; they fill a large area in the eastern and southern parts of Ohio, in the southern sections of Indiana and Illinois, and ranging south they cover the western part of Maryland, all the region in Virginia west of the boundary delineated, and are seen in a part of Kentucky, and as before stated, through Tennessee to Alabama. Other strata not so intimately connected with the coal, but belonging to the same period or formation, distribute themselves over a yet wider space.

The eastern boundary sketched above, is, throughout Pennsylvania, Maryland and Virginia, the termination of an extensive table-land declining in a rolling surface rather gently to the west, and cut off upon the east in an abrupt escarpment, having an elevation of from 1000 to 1500 feet above the valleys of the Appalachian group; upon the upturned edges of which latter strata this Alleghany plateau rests. Its beds dip most generally to the west, at a moderate angle, which grows less as we advance into the great basin of the Ohio and its tributaries.

"The surface of the region is undulating, and towards its southeastern limit, mountainous; but the loftiest hills rise in gently swelling outlines, and no very prominent peaks tower in acute and ragged lines, to denote that the strata have been subjected to violent convulsive and upheaving forces. Every thing bespeaks it to have been at one time an expanded plain, gently tilted from the horizontal position, so that its surface and the beds of rock beneath, decline with a slight but very uniform depression, very generally towards the northwest to the valley of the Ohio.

"The form, direction, and character of both hills and valleys, give evidence that its inequalities of surface were caused by the furrowing action of a mighty and devastating rush of waters, which by a rapid drainage scooped out enormous valleys and basins in the upper strata, the remnants of which are consequently traceable across the widest valleys from hill to hill, holding the same elevation, thickness, and inclination to the horizon. It is from this deep excavation of the strata by natural causes, combined with the other important circumstances of a nearly horizontal position, that we are to draw our estimate of the prodigious resources of a mineral kind possessed by the region before us. Whatever valuable materials lie included in the strata of the district, coal, salt, limestone, or iron ore, the horizontal position alluded to keeps them near the surface, or at an accessible depth, over enormously wide spaces of country, while the trough-like structure of the valleys, and their great depth, exposes the edges of many of these deposits to the day, under positions in which mining is the easiest imaginable, and with an extent of development not less accommodating to the researches of the scientific geologist than bountiful to the wants of the community. The same features prevail in the tertiary or tide-water district of the State, and ought to awaken there a corresponding feeling of congratulation. The only essential difference of structure, is the far greater depths to which the beds of this western territory have been excavated or denuded. A greater number of strata are there laid open, contributing to render the deep-seated beds of coal as accessible as the superficial marls of the lower section of the State, and thereby to preserve a beautiful balance in the resources of the two respective regions." —*Geological Reconnoissance of Virginia.*

When we attempt to institute a comparison between the strata individually of the coal-bearing series of the United States, and those of the so called carboniferous group of Europe, we are surprised at their visible want of accordance. Neither the same rocks, nor the same order of superposition are anywhere traceable, and nowhere do we find underlying these coal measures a counterpart to either the carboniferous limestone, or the old red sandstone, which so widely attend the coal measures in certain countries in Europe.

The lowest members of this thick series of the carboniferous strata of the Alleghany plateau, are generally red, green, and buff-coloured sand-stones, often very argillaceous, the whole having a probable thickness of nearly one thousand feet. The red variety predominates, and especially towards the base of the series. Resting upon these are massive strata of very coarse quartzose, conglomerate, and sand-stone, which in a thickness of a few hundred feet generally constitute the verge or summit of the mountain table-land. Upon these beds, again, repose the bituminous coal measures, consisting of white sand-stones very analogous to some of those above mentioned, intermingled with other varieties of the rock more argillaceous, and with yellowish, grey, pink, and even red sand-stones in almost endles alternation. What strongly characterizes this whole class of deposits, is the disproportionate amount of quartz or sand-stones, and the paucity of slates and shales associated with the coal. The coal-seams are usually first met with soon after we pass the eastern verge of the plateau, and here the coal measures are mostly sand-stones. Further westward, or in other words, owing to the slight western dip of the whole, higher in the series, we find these rocks becoming somewhat more argillaceous, enclosing thin beds of soft shale and fine clay, and thin irregular bands of limestone. By and bye these subordinate strata grow tolerably numerous, and they then contain layers of nodular argillaceous iron ore identical with the ore of the coal strata of Europe. There is ample reason for believing that this kind of ore is distributed throughout this formation in its range in Pennsylvania, Ohio, Virginia, Tennessee, and no doubt in other quarters, in a degree of lavish profusion rivalling the iron regions of any portion of Great Britain. The ore in question contains commonly from 25 to 33 per cent. of iron, and directly associated as it is with innumerable seams of coal well adapted for conversion into coke, and with beds of limestone to serve as a flux, it seems strange that so little has hitherto been attempted towards manufacturing it into iron.

The kinds of coal embraced in the formation now before us, are extremely various. The seams have an average thickness of 3 or 4 feet, but a few are found reaching 8 or even 10 feet in thickness. Those adjacent to the eastern outcrop, or in other words, those lowest in the series, are brilliant, highly bituminized varieties, very friable, and nearly all, at least in Pennsylvania, and it is believed in Maryland and Virginia, characterized by a columnar fracture, or one at right angles to the planes of stratification. These furnish tolerably good coke. Towards the northern limit of the coal-bearing portion of the formation in Pennsylvania, the coal is more firm, compact, has a very regular cubical or rectangular fracture, and contains but a small amount of bituminous matter; in other words, it is of the variety called *dry coal*, and finely suited to the manufacture of iron. There exist numerous seams of this in the northern and western counties of that State, also in the eastern part of Ohio, even in Illinois, and extensively in Western Virginia. This variety sometimes contains innumerable thin laminæ of fossil fibrous charcoal, seen in many American coals, and very common especially in the anthracite.

The extreme eastern class of coal-seams from the Potomac west of Cumberland, forming something like a subordinate basin, lying between the Little Alleghany and the Savage Mountain, possess an intermediate proportion of bituminous matter, and furnish an excellent coke. They are an exception to the general remark above made, being not columnar or friable, but breaking into huge blocks, besides containing only a moderate proportion of bitumen. Perhaps no rule can be laid down strictly descriptive of the distribution of the several varieties of coal throughout the enormous area occupied by this formation. Many of the limestone beds of the series contain such a mixture of foreign matters with the carbonate of lime, that they constitute an excellent source from which to procure hydraulic cement.

In the States of Ohio and Kentucky, Tennessee, and still further west of these, are wide tracts of a purer limestone, probably referable also to this coal series, of very great extent.

One very notable feature in the grits or sandstones of this formation, is the presence in them of muriate of soda, in such abundance as to yield a copious impregnation to the waters which are artificially procured from them by boring. A very extensive and often lucrative branch of manufacture is thus sustained, the sand-stones yielding the saline water, and the coal-seams adjacent producing the fuel to effect the evaporation.

Respecting the manner in which the salt is distributed in these rocks, the probability is, that it occurs as a mere impregnation in the partings of the strata, and not in the condition of solid rock salt. Research has not yet determined whether the salt-springs of Onondaga, New York, issue from rocks of the date we are now treating of, or whether the remarkably strong brines of the Valley of the Holston, in Virginia, are not of an epoch different from, and probably older than those saliferous sand-stones of the coal series. We cannot subscribe to the opinion often advanced,* that the New York salt region is in a formation of the date of the new red sand-stone of Europe; for the presence of the muriate of soda of itself will not prove the question of date, inasmuch as rocks of unequivocally older groups are seen in many sections of the region now sketched, to contain an equally inexhaustible supply of the same mineral.

The salt-springs of Onondaga county in New York, furnished in the year 1835, of manufactured salt, the quantity of 2,222,694 bushels.† It is stated that at present the salt-works on the Kenawha river in Virginia, produce annually about 3,000,000 of bushels of salt, made entirely by artificial heat.‡ The supply furnished from the strata of Pennsylvania is likewise large, though it is believed to be by no means equal to the quantities above mentioned.

Geologists who have been accustomed to seek an exact correspondence between the geological relations of Europe and distant countries, will be surprised to learn the existence of so highly saliferous a class of strata constituting the grits of a coal formation, and the probable absence in the United States of any rocks truly equivalent to the group so long regarded as the appropriate repository of salt.

These artesian wells or borings, made in quest of the salt water, are sometimes 900 or 1000 feet deep, though their average depth does not exceed 500 feet. They frequently penetrate thick seams of coal, but in this formation never any gypsum. Much petroleum often rises with the water of these wells, being identical with that which at many spots in the formation flows out spontaneously with the water, in certain springs which get the name of oil-springs. In several places throughout this bituminous coal region, natural jets of carburetted hydrogen gas exist, as in New York, Pennsylvania, and Virginia.

A few words remain to be said regarding the small detached coal-fields which lie to the east of these carboniferous strata of the Alleghany region. The best developed and probably most extensive of these insulated coal formations, is that which occurs in Virginia, stretching through parts of the counties of Henrico, Goochland, Chesterfield, Prince Edward, and Cumberland. These coal measures occupy a trough, or more probably a series of long and narrow basins, having a general north and south direction, running with the bearing of the stratified primary rocks in certain longitudinal valleys, in the surface of which they seem to have originally been deposited. Traces of coal present themselves at intervals from the South Anna river, near its mouth, to the Appomatox, a distance of nearly 35 miles, besides being found in less considerable masses ranging in limits yet unexplored, in Prince Edward and Cumberland counties. The rocks of the coal series have possibly a yet wider range than those boundaries within which the coal itself occurs. The central and principal coal-field crosses the James river about 15 miles above Richmond, where it has an average width of about 4 miles, widening in its course south. These rocks of the coal measures are nearly all coarse sandstones, there being very little slate or shale; and they consist of the materials of the subjacent granitic gneiss, which seem to have been so little changed by their removal from their native rocks, that with the exception of a partial decay of the felspar, and a slight attrition on their angles, they have not unfrequently a pretty close resemblance to the primary masses from which they were derived. The main body of the coal lies low down in this sand-stone series, in some sections almost immediately upon the primary rocks themselves. The original unevenness of the floor or surface of these, combined with the dislocations which have confused the stratification of the coal, cause it to have an irregular distribution, which has accumulated it in some places to an enormous thickness, circumscribed portions of the coal-bed having been wrought which were 40 feet in thickness. In other places three separate coal-seams, all contiguous, are known to range with considerable uniformity, and under features which warrant a belief that they are tolerably continuous throughout the basin. Their aggregate thickness is probably 12 feet at least, though in certain places it is much greater.

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* See Eaton's Survey of the Erie Canal.

† Report on the Geological Survey of New York.

‡ Report on the Geological Reconnoissance of Virginia.

There are about twelve collieries in successful operation, which sustain at Richmond a valuable and growing coal-trade. The deepest shaft is one belonging to the Midlothian pits; it is 700 feet in depth, and a new shaft not yet completed, will perhaps even exceed this.

The exact geological age of this coal formation can only be inferred on general grounds, and from a seeming identity of the vegetable remains with those of the true coal series elsewhere.

As these strata have never, so far, furnished any shells or other characteristic fossils, and as they repose directly upon the primary rocks, and are not themselves covered by any newer formation, it becomes difficult through a want of data to affix to them their exact position in the secondary series.

Another insulated small coal-field recently developed, occurs in Nova Scotia. Its coal is rich in bituminous matter, like that of the region just described, but it has not been extensively worked, and its general geological relations are imperfectly known.*

Formations of the period of the Greywacke group.—Between the mountain ranges of the Blue Ridge system on the east, and the base of the plateau of the Alleghany on the west, there extends a wide belt of parallel mountain ridges with deep intervening valleys, which, from considerations of physical geography as well as of geology, we have grouped together under the general title of the Appalachian system. From where these formations have their northern termination, resting upon the primary rocks of New England and the northern corner of New York, to their southern limit in Alabama, they retain, amid a series of minor variations, a very remarkable permanency in all their general characters, the wide territory which they constitute being distinguished for a no less striking uniformity in its very peculiar physical aspect. The rocks of this region constitute the oldest fossiliferous group of the United States; from which fact, and from their being next in the descending order to the series containing the bituminous coal, they may very properly be regarded as equivalent to the class of strata in Europe known as the greywacke group. A tolerably near approximation in their fossils seems also to exist, though no minute investigation of this interesting subject has yet been instituted, from the difficulties arising out of the infancy of the science in the country. But though quite enough can be ascertained as common to the two respective formations of Europe and America, to satisfy us that they had their origin during the same general epoch, yet nothing appears to justify our assuming anything of *identity* between the subordinate members of the two series.

The broader views of the origin of stratified rocks now entertained by the more enlightened geologists of the day, would alone lead us to look for a discordance in the order of succession of the strata on the opposite sides of the Atlantic, even if we were not assured, by observation, of the futility of attempting to recognise any precise parallelism in the two series. Avoiding, therefore, the local names applied to the several members of the corresponding group in other countries, we shall content ourselves with simply distinguishing them by their more obvious characters, and with giving their order of succession, their general range, and stating the materials which they contain applicable to useful purposes, or any phenomena interesting to science.

The uppermost strata of this extensive group embrace the enormously developed coal region of Pennsylvania. The coal measures are black, red, brown, and gray shales and argillaceous sandstones, alternating with the thick beds of the anthracite, the whole series resting on a thick pile of quartzose conglomerates, and very coarse grits, which themselves alternate in some sections of the coal region with the seams of anthracite. Beneath these we meet a very thick series of brown and red shale, containing occasionally thin calcareo-argillaceous beds, the chief fossiliferous bands in the series next the coal. The organic remains are shells, zoophytes, and encrini, but in no great variety of species. These argillaceous beds repose upon a thick series of massive sandstones, white, pinkish, and sometimes red, composing a large portion of the strata in the Appalachian ridges, from the Juniata south through Maryland and Virginia. A class of very interesting marine vegetable remains characterise these arenaceous rocks. They are allied, it is thought, to the fucus tribe, and we shall designate the sand-stones in question as the fucoidal rock of the Appalachians. Numerous shells, in the condition of hollow casts, occur preserved in the same set of strata, especially in the part of their range where they cross the Potomac and James rivers. In Virginia, these strata, composing a large portion of the mountains along the west side of the great valley west of the Blue Ridge, contain seams of coal, some of it pure anthracite, while some is a semi-bituminous coal, approximating in outward aspect to the ordinary anthracite. Whether the coal measures, which in Virginia occur at intervals throughout a large portion of the Appalachian region, are all of this arenaceous series, or whether they are of a position rather higher and more nearly that of the coal-bearing part of the group in Pennsylvania, is a point still to be ascertained.

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* See a Memoir of Jackson and Alger, on the Mineralogy and Geology of Nova Scotia. American Academy of Arts and Sciences.

To this formation of fucoidal sand-stones succeeds a thick series of red shales and argillaceous sand-stones, and underneath these again occurs a heavy mass of dark slate. Terminating the whole series there lies beneath this slate a very important mass of limestone strata, which is the rock of nearly one-half of the valleys of the region before us.

We present the following as a description of the strata in the middle portion of the above series. "The lesser ranges of mountains which first interrupt the general undulating surface of the valley, known by the various names of Little North Mountain, Catawba Mountain, &c., indicate the commencement of a series of rocks entirely distinct from those occurring in the valley, being composed of sand-stones and conglomerates, and of shales subordinate to the seams of anthracite and semi-bituminous coal, which here discover themselves." (*Report on the Geological Reconnoissance of Virginia.*)

A number of the valleys lying towards the middle and western side of the Appalachian belt, consist of the lowest rock of the whole, the limestone disposed with an anticlinal axis running through the centre of the valley, the strata on either side dipping at a pretty steep angle under the base of the adjacent mountains, which in most instances are formed of either the middle arenaceous strata or the upper argillaceous ores, and the anthracite coal measures. Among the many interesting valleys of this structure, termed by Dr. Buckland "valleys of elevation," are the Warm and Sweet Spring valleys in Virginia, and the Nittany, Penn's, and Kishacoquillas valleys in Pennsylvania. The long and wide valley, which, from Tennessee to New York, pursues a course between the Blue Ridge or its continuations and the first ranges of the Appalachians, and which we have before designated as the great Kittatinny or Cumberland valley, is occupied through nearly its whole extent by an enormously thick series of limestone and slate beds, which bear a remarkable analogy to those just spoken of above. Connected researches have not yet been prosecuted over a sufficiently broad surface of the Appalachian region to warrant us in speaking very decidedly in regard to the identity of the rocks of this valley with the limestones and slates of the intervales among the mountains to the west of it; yet we entertain but little doubt that such identity will hereafter be established.

Portions of this limestone, at the bottom of the Appalachian series, contain fossils, and in considerable abundance, more particularly the limestone beds, which appear in the more western line of valleys. In the great Kittatinny valley also there are bands now and then to be met with which are fossiliferous. Among the remains are trilobites, orthocera, and nautili, besides terebratulæ, productæ, and other bivalves.

The whole of the belt of formations here sketched has been thrown into disorder by a number of parallel and acutely intersecting dislocations, tossing the strata into innumerable anticlinal and synclinal axes, or occasioning enormous faults, following the bases of the ridges, by virtue of which, and the multitude of minor contortions, an extreme difficulty is introduced in any attempt at restoring the strata to their appropriate order of superposition.

These dislocations are extensive along each side of the great eastern limestone valley, but they are especially numerous, intricate, and violent, along the valleys near the base of the great Alleghany plateau: they are so at least in Pennsylvania.

The vast coal-fields of anthracite which are embraced in these strata of the greywacke era, we have before said lie chiefly to the northeast of the Susquehanna river. If we trace a parallelogram, one line following the Kittatinny or Blue Mountain from the Water Gap of the River Lehigh to the Susquehanna, another from that mountain up that last river to its north branch, and a third along the north branch and its tributary the Lackawanna until we reach a point almost due north of the point we started from, we shall then enclose nearly all the genuine anthracite seams hitherto discovered in Pennsylvania.

To conceive the position of the coal throughout this wide area, we must imagine that a set of strata, conglomerates, grits, shales, and thick beds of anthracite, were deposited upon some wide and nearly horizontal plain, and not collected, as appears to have occurred with many coal-fields, into troughs or basins previously formed. Conceive the whole of this level area to have been converted into an undulating surface of valley, hill, and mountain, by some general disturbing cause.

The coal, just as we should infer from such a supposition, is found both upon the hills and in the valleys, forming at times a portion of the strata of the mountains, and only occasionally lying in a basin form between the ridges.

Some conception may be formed of the quantity of fuel in this portion of the Appalachians, when it is mentioned that the most southeastern range of coal-seams may be traced parallel to the Kittatinny nearly the whole way from the Susquehanna to the Lehigh, more than 60 miles; that, near the middle of this line, which is chiefly along a valley embraced between the Sharp and Broad mountains, about 65 seams have been counted, one-half of which at least are productive, that those wrought will average in thickness five feet, while many are more, and some even 24 feet thick, and that cropping to the surface under a mean dip of about 30 degrees, these seams rise into the long hills or ridges, so that a front of two or three hundred feet of coal is sometimes accessible above the level of the valleys, from which they are entered by drifts or levels carried in from the ends of these ridges. Near the northeast end of this first coal-field the seams are greatly reduced in number, but one of them, that known as the summit mine of the Lehigh Company, measures in thickness nearly 60 feet of solid coal.

Near the opposite extremity of this range, or within a few miles of the Susquehanna river, on the ridge or mountain which overlooks Stony creek, a singular variety of coal occurs, somewhat an anthracite in appearance, but containing from 12 to 15 per cent. of bituminous matter. Its quantity, however, has never been shown to be great. Coals somewhat analogous to this prevail in various sections in these upper strata, perhaps in the middle beds of the Appalachian series further to the south. But to the northwest of the Broad Mountain there is an assemblage of thick seams of anthracite coal, upon a scale even far more enormous than that here stated. Beds of coal are known lying nearly horizontal, and with a thickness throughout between 20 and 30 feet. The extreme northeastern coal-field of this region, or that lying along the valley of the north branch of the Susquehanna river, from 10 miles below Wilkesbarre to Carbondale on the Lackawanna, occurs under sufficiently simple features to enable us to estimate with some degree of precision the probable amount of the coal in it. In length about 40 miles, and with an average width of more than two miles, the coal ranges in at least six seams continuously throughout the whole of this valley. Computing the solid matter accessible in only the two thickest of these, one of which is 24 feet and the other six feet thick, and making due abatement for loss and waste in mining, we find that the coal-field in question can be made to furnish at least 12,000,000 tons of excellent fuel. When we reflect that this is the most circumscribed of at least three* distinct ranges of coal which make up the anthracite region of Pennsylvania, and that it is disproportionately smaller than the other coal-fields, we cannot fail to be impressed with amazement at the stupendous scale in which these formations present themselves. The amount of anthracite coal which found its way to market from this region in 1835, was 600,000 tons, and at the rapid rate at which the trade is increasing, the supply will very soon reach one million of tons.

Small deposits of nodular argillaceous iron ore are seen in this formation, but as all efforts at smelting iron with anthracite as fuel have so far been abortive, these ores have been but little sought after, and their true extent is yet unknown.

To pass now to the portion of the series next beneath these strata which contain the anthracite northeast of the Susquehanna, there are some observations worthy of a place here regarding more especially the Appalachians of Virginia.

"The *coals* of the Little North Mountain, Catawba Mountain, &c., are among the most prominent objects in an economical point of view; and should the reasonable expectations to which their discovery has given rise, not be disappointed, will influence in no small degree the prosperity of one of the most extensive and important regions of the State. From the Potomac to the southwestern counties, the minor ranges of mountains, rising in general along the western boundary of the valley, are known to include beds of this mineral in the various conditions of a pure anthracite, and a compound containing variable but never large proportions of bituminous matter, and which may accordingly be denominated semi-bituminous coal. In Berkeley county, on Sleepy creek, and elsewhere, openings have been made, from which an anthracite of the very purest character is obtained. In Frederick, Shenandoah, Rockingham, Augusta, Botetourt and Montgomery, similar discoveries have been made;

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* Packer's Report to the Legislature of Pennsylvania on the Coal Trade.

the coal of the four former counties, as far as yet examined, being nearly identical with that in Berkeley, while that found in Botetourt and Montgomery contains a considerable portion of bitumen, though far less than that of ordinary bituminous coal. The seams which have as yet been examined, vary from three to seven feet in thickness." (*Report on the Geological Reconnoissance of Virginia.*)

In Virginia the slates overlying these thick sand-stones are largely charged with pyrites, which, undergoing chemical changes, will account for the origin of the numerous medicinal springs of this section of that State. Some are sulphuretted, others chalybeate, and some are of an acid or astringent nature, and are often highly useful in cutaneous diseases. The well-known alum rock on Jackson river is a slate of this nature, and so highly impregnated is it that many, in place of resorting to the alum springs of the vicinity, make use of this rock as a substitute by immersing small fragments of it in water, to which it imparts all the flavour and the effects of the springs themselves. The more highly celebrated medicinal springs of the Appalachian region, both in Virginia, Maryland, and Pennsylvania, belong rather to the limestones at the base of the series than to these middle strata. These limestones moreover contain the celebrated thermal or hot springs of Virginia.

Directing the view next to the lowest members of the series, or the great limestone and slate belt of the Appalachians, we find this portion of the region to abound in objects of both practical and scientific interest. High in the list of these ought to rank the enormous deposits of iron ore. This ore is almost invariably subordinate to the limestone, lying in a highly ferruginous loam, either in fissures between the strata or resting over the uneven surface of the formation. The ore is of the hematite family, of every possible variety, and of a quality nowhere surpassed. From the shores of the Hudson to the interior of Tennessee large collections of it accompany these rocks, both in the great eastern valley and in those lesser ones more in the interior of the Appalachian region. When it has a columnar stalactitic structure it is known under the name of pipe ore. This variety is in great request, as it usually yields a superior iron, and is profitably smelted from the readiness with which its reduction is effected, owing to its open structure. These ores generally produce at least 50 per cent. metallic iron. As the reduction is effected solely by charcoal and the foreign ingredients in the ore are chiefly alumina and silica, we can readily account for the exalted reputation of the iron manufactured throughout this belt of country.

That all this family of ores should accompany so exclusively the limestone, being rarely or never among the slates, is not a little singular.

These limestone rocks are most usually covered by an excellent soil, susceptible of great amelioration by the addition of lime derived from burning the rock. Some of the most improved agricultural districts of the United States are to be found within the limits of the formation now before us. Marls, deposits of calcareous sinter, and travertin, derived from the action of water charged with carbonic acid, dissolving and precipitating again the carbonate of lime, abound in various places throughout its range, and add materially to the resources of the region. "The travertin formations of these valleys, produced in the way we have just described, are in some cases of immense thickness and extent. That in the neighbourhood of the Sweet Springs in Virginia has, in all probability, a thickness in some places of upwards of 100 feet, and every year adds slowly to its amount. At the Falling Spring, nearly on the route from Covington to the Hot springs, a still greater depth of this deposit has been accumulated; and in various other places throughout this region, masses more or less considerable of the same curious formation, may be met with in the valleys, and sometimes even at considerable elevations on the sides of the hills.

"The travertine, like that already alluded to as existing in Jefferson, Frederick, and other counties in the valley, is capable of being made highly useful in agriculture, and of yielding a lime of the greatest purity and whiteness." (*Report on the Geological Reconnoissance of Virginia.*)

Some bands of these limestones possess a composition which fits them for making an excellent variety of hydraulic cement, a material much in use in the construction of the public works going forward in many parts of the region occupied by these rocks. As the formation consists of alternating belts of limestone and slate, it is found that the usual place of the cement stone is near the line of contact of these two, and this is fully in consonance with the fact that the material in question contains a blending of the elements of these adjacent strata. The hydraulic cement is not confined to the rocks of the great Kittatinny valley, but occurs wherever a considerable area of these strata appears, as far west as the base of the Alleghany plateau. A similar material constitutes one of the resources of the region of the bituminous coal, but is there in connexion with a totally different class of rocks.

Occasionally the limestone of this formation assumes the aspect of a marble, either pure white or of a gently variegated hue, with a fine even fracture susceptible of a beautiful polish.

Among the slate strata of the great valley some possess all the qualities of hardness, fracture, and fineness of grain such as to fit them for furnishing both roofing and writing slates of very excellent quality. Upon the Delaware river within a mile of the grand gorge through the Kittatinny or Blue Mountain, called the Water Gap, there are two pretty extensive slate quarries, one of which has yielded slates admirably suited to both the leading purposes to which this material is applied. These quarries are in the slate belt which ranges immediately along the eastern base of the mountain, and it is believed that most of the slate of this formation that is adapted for manufacture occupies the same relative position.

Besides the existence in these inferior Appalachian strata of the several valuable materials already enumerated, we may specify one or two more, the announcement of some of which will rather surprise geologists. The iron ores were mentioned before. Of other metals almost the only one in the formation is lead. Towards the southern portion of the region, namely, in the southwest corner of Virginia, lead ore is apparently abundant. It presents itself in the form of sulphuret and carbonate of lead. Both ores are wrought, but the carbonate from the fact of its yielding a purer metal is preferred. The sulphuret exists among disintegrated vein stuff, chiefly carbonate of lime, in veins traversing the limestone; the carbonate in beds found usually at the intersection of the veins. In reducing these ores the fuel employed is wood.

In the same quarter, and connected seemingly with the very same rocks, are large deposits of gypsum and strata yielding springs highly charged with common salt. If as we have reason to believe these all belong to the Appalachian system of rocks, the origin of which we have placed among the very earliest epochs of the fossiliferous secondary formations, how unexpectedly do these two minerals, the salt and gypsum, here show themselves! In most regions their position is among the strata next superior to the coal series, and here we find them almost at the bottom of the secondary. Absolute certainty does not yet prevail however as to whether they are of this period or that of the somewhat newer Alleghany group, though the place of the gypsum is to all appearance in the limestone of the great valley. We furnish the following description from the recent report on the Geology of Virginia.

"The gypsum, as far as certainly known, occurs over a space about 20 miles in length, and half a mile in breadth, but probably the area actually occupied by it is much more considerable. The depth to which it extends in some places is enormously great. It lies in beds between strata of limestone, slate, and sometimes sand-stone, and has to be penetrated for a great depth in boring for salt water. In some cases it is said to have a thickness of nearly 300 feet, including the bands of rock among which it is stratified. Its condition is either that of a fibrous crystalline mass of nearly perfect purity, or a granular bluish-gray and veined rock, containing a small amount of earth, but still as little mingled with extraneous matter as any of the imported plaster. This precious material, owing to the difficulty of transportation, is yet unknown at any distance towards the seaboard, but during favourable seasons it is conveyed in arks down the Holston, to the southwestern States, and in this way yields a handsome profit. With facilities of transportation, what incalculable benefits might the great valley of Virginia, and much of the region west, as well as east of it, derive from this invaluable deposit, and what an active and productive commerce might it give rise to throughout that region in which it is found!

"The salines constitute another of the treasures of this district of the State. As yet but little has been done, either towards determining the extent of the saliferous strata, or the chemical nature of the various ingredients, besides the common salt, which the brine holds dissolved. At the salt-works on the Holston, the wells are usually from two to three hundred feet in depth, presenting strata of limestone near the surface, sand-stone or slate alternating with beds of gypsum several feet in thickness, next beneath, and finally, a stratum of clay, within which the salt-water is procured. This clay is of a reddish aspect, and a very argillaceous texture, being in all probability a softened shale, such as that of the brine springs and rock-salt of Cheshire in England.

"The proportion of common salt varies with different wells, and even in the same is not perfectly uniform. In some cases 10 gallons of the brine will yield one gallon of salt, in others 16 are necessary. Taking the specific gravity of salt at about 2.5, and allowing something for the interstices in the dry measure, we would have in the former case a strength of about 20 per cent. Gypsum is always present in the brine, and is almost the only impurity in it." (*Geological Reconnoissance of Virginia.*)

On some occasions the water of these wells brings up small granules or crystals of salt, but whether this circumstance is to be regarded as indicating the existence of beds of solid rock-salt beneath, or whether it merely intimates that the salt which furnishes the brine is distributed in granular crystals through certain portions of the rock, are points regarding which we possess no means of deciding; though from the non-appearance of any rock-salt near the surface or in the borings gathered from these wells, we think the latter conjecture rather the most feasible.

Though we are unsettled in opinion respecting the group in which we ought to place the strata which afford the gypsum and salt springs of the interior and western parts of New York, we incline to consider them as nearly of the date of those now before us, rather than of the coal series. We may at all events appropriately speak of them in this place. The region most abundant in gypsum in New York embraces Madison and parts of some of the neighbouring counties, and it is found also in Ancram, Columbia county, and elsewhere.* According to Eaton, the gypsum exists in limited beds in a calcareous rock which extends from Oneida creek to the Niagara river, a space of two hundred miles. Gypsum of similar quality is collected in some of the islands at the head of Lake Erie, in the Bay of Sandusky, and there are fair reasons for concluding that it is in an extension of the same group of rocks. He maintains that it is separated from the rock which yields the salt water by three intermediate strata; other writers however conceive the two to be in juxta-position. We ourselves have seen ample reason to believe that the gypsum originates in the abovementioned calcareous stratum in which it is diffused, constituting an intimate part, detected in it often by the minute rhombic cavities that are left empty by the solvent action of the water that has removed it. The filtering of the water from the surface seems to have carried down the gypsum, until, arrested by some impervious argillaceous layer, it has been deposited in a broad shallow cake or concretion; so plainly intimating how it is formed that the people working in the gypsum maintain it as a vague opinion that in some manner it is *growing* there.

Though several borings have been made in the salt region of Onondaga county, New York, in quest of rock-salt, and in one instance to the depth of 250 feet, yet none has ever been detected, and we think that the probability of finding it here is no greater than in the grits of the Alleghany coal series. The saliferous district of New York occupies a belt about 20 miles wide, extending from Oneida county more than two hundred and fifty miles westward.

Before leaving the subject of the formations of the Appalachian system, we shall present a few pertinent remarks from the previously quoted description of Virginia, respecting the numerous mineral waters which characterise so strikingly the central section of the Appalachians, especially in Virginia, and which hold out, in connection with its fine climate and exquisite scenery, so much to allure the traveller and invalid to enter among these formations.

"Among the general considerations in relation to them, which may with propriety be introduced in this place, it is worthy of remark, that while the thermal springs to which we have referred, in treating of the Warm Spring valley and other places, appear to be indebted for their impregnation chiefly to rocks of a calcareous description, and are accordingly found in or near such rocks, the sulphuretted springs (now referred to), among which are the White, Red, Salt, Blue, and Gray Sulphur springs, appear to derive most of their ingredients from pyritous slates, and will therefore be observed to rise through or in the neighbourhood of strata of this nature. Of these, the White Sulphur is the only one which can be regarded as decidedly thermal, its temperature being about 64°, while the others do not vary considerably from the usual temperature of the ordinary springs around them.

"Another point of a general character which may be noticed here, is the radical difference as to saline and gaseous ingredients observable between the springs formerly alluded to, and those of which we now speak. All the waters of the Warm and Hot and Sweet Springs valley, and several others of analogous character, and highly thermal temperature, discharge considerable quantities of free gas, consisting of carbonic acid and nitrogen, of which the latter was first distinctly recognised by myself, and found in general to be present in very great proportion.

"At the same time a large amount of carbonic acid is held in combination in these waters, imparting the acidulous character for which some of them are remarked, and giving them the power as already mentioned of holding large quantities of carbonate of lime dissolved. This acid impregnation is in no instance more strikingly manifested than in the waters of the Sweet Spring valley, of which, that of the Red Spring about a mile below the principal fountain of the Sweet Springs, presents an amount of the combined gas equal in volume to about one-half of that of the water itself.

"Another important distinctive feature in the constitution of the class of springs here spoken of, is the large amount of the *carbonates*, principally that of lime, and the comparatively small proportion of the *sulphates* with which they are impregnated.

"On the other hand, the class of *sulphuretted waters* as exemplified in the springs previously named, contain but little carbonic acid, and a comparatively minute amount of carbonate of lime, or other carbonates, while they are richly fraught with sulphuretted hydrogen gas and various sulphates, of which those of lime and magnesia are present in most considerable proportion. Besides the several points of distinction above referred to, it may be further added that the sulphuretted waters are in general impregnated with various organic matters of very peculiar characters, which by collecting in the reservoirs and channels of the springs, in mixture with precipitated sulphur, have, by the various beautiful colours which they impart, given rise to the different appellations by which the more celebrated of these fountains are now known. But while such general resemblances as have been described, will be found to prevail among the several springs of each class as thus characterised, it is at the same time to be remarked that they possess striking individual peculiarities, imparting to each an amount and species of medicinal agency in some degree appropriate to itself."

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* Report on the Geological Survey of New York.

Caves of most enormous dimensions and deep funnel-shaped cavities in the surface abound throughout the valleys occupied by these lower limestone strata. In some of these caves, *saltpetre* is found mingled with the earth; which contains also much nitrate of lime convertible into saltpetre by passing over the soil the washings of common ashes. In the same caves ***gypsum*** likewise is no uncommon ingredient of the *petre-dirt*, as it is termed. Every thing here implies the action of water traversing these caves, leaving a sediment of a texture almost impalpably fine.

Few instances occur in which the bones of terrestrial quadrupeds are met with in the caves of the United States as they are in those of Europe, and the chief interest attending them belongs therefore simply to the vast expansion of some of the more considerable. The galleries of the great Mammoth Cave of Kentucky have been ascertained, by actual survey, to be two and a half miles long in one direction.

Of the Primary Rocks of the United States.—The present sketch professes not to aim at those details of classification appropriate rather to a more elaborate treatise, and we may therefore be allowed to trace the general range of the group of rocks now to be described, without presuming to delineate very closely the extremely intimate connection which they present with the formations last discussed. For the sake of greater simplicity we shall consider under the same head the genuine primary rocks and those non-fossiliferous sedimentary strata which from their position, their altered structure, and their destitution of all traces of organic remains, possess a claim to rank among the rocks once known as the transition class. The same difficulty which is presented in all attempts to separate by any well-defined limit the rocks of this order from the true primary class in Europe is encountered in this part of the formations of the United States. It is next to impossible, at the present day at least, to say where the one group terminates and the other begins. With these remarks to guard against any misconception of the subject, we may then treat under one comprehensive title of Primary, both the true primary rocks and those so difficult to be at all times distinguished from them, the oldest sedimentary series.

East of the Mississippi and the great lakes, there are two great tracts of primary rocks, not however wholly detached from each other.

The northern and by far the most mountainous of these primary regions occupies nearly the whole area of the New England states, and stretches south as far as the eastern counties of Pennsylvania. From the extreme eastern boundary of the United States it ranges westward, following the St. Lawrence to the lower extremity of Lake Ontario. From that point or at the Thousand Isles the edge of these formations may be traced in a southeast course to the southern point of Lake George. Further south than this the western boundary passes west of Bennington, Vermont, along the western part of Stockbridge, until it becomes the western side of the Highlands upon the Hudson, which it follows in their course through New Jersey to their termination in the northern part of Lancaster county, Pennsylvania. From this latter point, however, the western limit of the rocks now before us is prolonged far to the southwest, but they appear not as before under the form of rocks of the gneiss and other groups unequivocally primary, but as formations of a more ambiguous character. These continue in this line across the Susquehanna near Columbia, and pass southwest through Maryland and Virginia, keeping parallel with the eastern ranges of the Blue Ridge system, the Cotoctin, Buffalo Mountain, and others, but rarely are seen so far west as to include those mountains, unless we embrace in our series the altered non-fossiliferous sedimentary strata, in which case the boundary is the western base of the great Blue Ridge itself. The southeast edge of the New England primary is along the north shore of Long Island Sound, taking in a small portion of the west end of Long Island and passing through the city of New York and Staten Island to Perth Amboy. Here these formations are interrupted, by an overlapping of the red shale series, in New Jersey, and do not reappear until we find them in a mere point six miles to the northeast of Trenton. From that point south they form the second great primary area above mentioned. The eastern line of this is marked by the western limit of the tertiary and cretaceous rocks of the Atlantic plain; its western or northwestern boundary is traced crossing the Delaware a mile and a half above Trenton, and meeting the Schuylkill about 12 miles above Philadelphia. As the belt widens still to the southwest, the same line passes more and more off from the coast, passing the Potomac river 22 miles west of Washington,* and merging into the previously traced belt somewhere near the Rappahannock in Virginia. The separation of the primary into these two tracts over so wide a space is owing to the position of the very long belt of the red shale and sand-stone series, which from the Rappahannock to the Hudson ranges in a central direction between them. An isolated group of the same rocks lies in a trough in the primary formations along the valley of the Connecticut, while formations of the Appalachian series penetrate in a narrow wedge deeply into the same region along the country bordering the Hudson river and Lakes George and Champlain, and occur also in a detached basin in the eastern section of Massachusetts, between Boston and Rhode Island.

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* Maclure, in Trans. of Am. Phil. Soc. Geol. of United States.

The primary rocks, with those which we have associated with them, range in a continuous belt through Virginia, North Carolina, South Carolina, and Georgia, as far as the Alabama river in Alabama, and occupy a breadth in most parts of this course of from eighty to one hundred miles; having for their eastern boundary the horizontal strata of the Atlantic plain, and for their western the great Appalachian valley lying at the base of the Blue Ridge and the long line of mountains which further to the southwest lie in the same great axis of dislocation.

Primary rocks compose a principal part of the materials of the range called the Ozark Mountains west of the Mississippi, and far off on the western side of the continent in the vast chain of the Rocky Mountains, they exist in conspicuous profusion, constituting far grander phenomena than belong to any part of the range skirting the Atlantic. We shall content ourselves here however with giving a few of the more important details of the latter group, as being the only primary region of the continent even partially familiar to geologists, and from its relations to civilized population the only one of chief interest in a sketch of the United States.

From the coast of New Brunswick to the mouth of the Hudson, with a trivial interruption in the peninsula of Cape Cod, the sea washes against primary rocks, sometimes low, sometimes in bold projecting cliffs. From this ocean boundary all the region embracing the New England States, and the northern section of New York as far to the northwest as the St. Lawrence river, consists of primary rocks, if we except three narrow belts of secondary strata which we are about to specify. The most eastern of these included tracts extends from a little north of Boston in a nearly southern course to almost the extremity of the island of Rhode Island. Its greatest width, which is in Massachusetts about the latitude of the northern boundary of Connecticut, is nearly 27 miles, but its limits are extremely undulating and irregular from the circumstance that its strata form a basin or more properly a series of basins in a region of unstratified rocks. The group consists of red and gray sandstones, and beds of argillaceous slate and a very coarse conglomerate well exposed near Boston. Anthracite coal occurs in several places among these strata, and in some places in a sufficient quantity to give a hope of its proving ultimately profitable.

Another narrow basin of secondary rocks occupies the valley of the Connecticut River, from New Haven in a nearly north direction to the southern line of the State of Vermont, preserving a mean breadth of about 15 miles. It includes red shales, argillaceous sandstones, and beds of conglomerate, the whole or a part of the strata belonging most probably to the red shale series previously described as ranging from the Hudson through New Jersey and Pennsylvania. The two sets of rocks resemble each other very closely in mineralogical characters, are both crossed by numerous ridges and dykes of trap, which in each instance presents near it numerous localities of copper ore, characterised by a great prevalence of the green carbonate of copper. Some of these beds of the valley of the Connecticut have been referred to the new red sand-stone formation,* but as they are entirely destitute of characteristic fossils it becomes impossible yet to determine their peculiar equivalents.

The third belt of secondary rocks embraced in the northern primary region comprises merely a prolongation of the group of strata before described as ranging through the Appalachian region, and which we are inclined to refer to the epoch of the European greywacke. These rocks, crossing the Hudson at Newburgh, change their direction to a nearly northern one, and follow the valley of that river and the continuation of the same valley along the eastern shores of lakes George and Champlain as far north as the outlet of the latter, when after gradually contracting from a mean breadth of about 20 miles between the primary rocks of Vermont and those of the northern counties of New York, this secondary series comes finally to a point. Trilobites and other characteristic fossils of this class of strata, are met with at Glenns Falls and various other points along the line just traced, showing that the group maintains its distinctive features still, though so greatly reduced in breadth.

Primary Rocks and Minerals.—By far the greater portion of the primary rocks of the Eastern States belong to the stratified or gneissoid class, while those of the Middle and Southern States, a prolongation of them in fact, consist of this class exclusively. The unstratified rocks which occur in the primary regions of the United States are confined almost entirely to the country east of the Hudson River, and they may all be included in four varieties, viz., granite, sienite, porphyry, and green-stone.

These unstratified rocks are distributed in numerous isolated patches among the stratified ones in the State of Maine and the eastern portion of Massachusetts; associated with gneiss and schistose masses, they abound in the White Mountains in New Hampshire.

The stratified primary group, including the principal schistose crystalline rocks, predominate more upon the western side of the New England States. Throughout this whole primary region of the eastern system of mountains the general direction of the ridges and chains is nearly north and south, and the dip of the strata either towards the west or the east, but most frequently towards the latter quarter.

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* See Professor Hitchcock's Report on the Geology of Massachusetts.

The granite of New England is distributed in so many isolated ranges, that it would be incompatible with the scope of the present sketch to attempt any delineation of its boundaries, more than to mention some of the positions where interesting or valuable varieties of it abound. A belt of granite traverses nearly the whole breadth of Massachusetts. Commencing near Andover, it runs between a region of sienite on its east, into which it sometimes graduates, and a belt of gneiss and mica slate on its west, as far south as Rhode Island. Portions of this mass, especially in Rhode Island, are fine-grained, and well adapted for architectural purposes, for which it is extensively wrought in the vicinity of Providence. Another broad mass of this rock reaches from the coast of Narragansett and Buzzard's Bays, in a northeast direction towards the opposite side of the Peninsula of Massachusetts. This, though usually coarse-grained, is in some places, as at Fall River, of a fine grain, and suitable for building. As we go further to the west, we meet with detached patches of granite, protruding through the mica slate, in Worcester county, Massachusetts, and a similar arrangement seems to prevail in the districts of New England to the north of this State:—that is to say, wide expanses of granitic rocks show themselves near the coast, and as we proceed westward, they become merely isolated masses, as it were, thrust through the gneiss, mica slate, and other stratified rocks. Granite of very superior beauty, associated with sienite, extends in a convenient belt around Boston, at a distance of 10 or 20 miles, upon the north, west, and south. From Cohasset to Quincy, and also between Cape Ann and Salem, it is extensively quarried, the rock from the large quarries at Quincy being now widely known in many of the cities of the United States. At the quarry at Fall River, blocks of beautiful granite, from 50 to 60 feet long, are sometimes procured.

The variety of granite that contains hornblende in the place of the mica, and is known under the name of sienite, is found in abundance in the same neighbourhood with the granites here mentioned, and is itself almost as largely wrought as the true granite, or triple combination of quartz, felspar, and mica.

Porphyry, sienitic porphyry, and porphyritic green-stone, abound in various places adjacent to the coast of New England, especially to the north and south of Boston. Near Lynn the porphyry assumes all the dark purple and other tints, with the fine polish of the best antique varieties; and when ornamental architecture shall be more cultivated in America, the shores of Massachusetts will no doubt be eagerly resorted to for the beautiful rocks of this group, which there exist in seemingly inexhaustible quantities.

Sienitic porphyry, or a sienite with imbedded crystals of felspar, occurs plentifully in fine specimens near Cape Ann; and a rock splendidly ornamented, consisting of a fine green-stone paste, with disseminated crystals of greenish felspar, and which sometimes gets the name of porphyritic green-stone, is found in large veins traversing sienite not far from the same head-land.

These points are mentioned as furnishing the reader a mere sample only of the unstratified primary rocks of the United States, for to go into more minute details would here be impracticable, even if the absence of the proper sources of information did not preclude the attempt. With the exception of the Geological Report of Professor Hitchcock upon Massachusetts, little exists in print to acquaint us with the highly interesting primary formations of New England, where the unstratified rocks alone prevail in any abundance.

Turning to the stratified primary rocks, we find that the formations of the United States embrace nearly every variety known to geologists. They comprise numberless modifications of gneiss, hornblende slate, serpentine, talcose slate, mica slate, quartz rock, and scapolite rock, besides highly crystallized primary limestone, having the character of marble. To attempt, in the present state of knowledge, to trace the range of these rocks more in detail than has been done already, would be unavailing, nor could it interest the reader. We shall proceed, therefore, to touch upon some of the more important *minerals* found in the primary districts of the country.

The magnetic oxide of iron characterizes the stratified primary rocks of New England, and their prolongation across New York, New Jersey, and part of Pennsylvania, in a very remarkable degree. It occurs in thick beds in Winchester and Franconia in New Hampshire. It is abundant at Cumberland, Rhode Island, from whence it is taken to Massachusetts and smelted; it abounds in Vermont, at Somerset, in a range of talc slate, 20 miles north of Massachusetts, yielding 78 per cent. of iron of the best quality. In Massachusetts, it occurs at Hawley and the neighbourhood, though the bed is of no great thickness, not exceeding two or three feet; and it is also seen at Bernardstown, in a bed several feet thick, in limestone, dipping at a gentle angle. In New York, it occurs in the northern primary district in abundance, especially near the valley of Ausable River, where the quantity of iron manufactured and exported in 1831, amounted to 280,000 dollars. It exists also in the primary range called the Highlands, which cross this State, and pass through New Jersey. Enormous veins of it occur in this range, south of the Hudson, at Sterling, and are continued through New Jersey, in the neighbourhood of Ringwood. Thick beds, averaging 10 feet of solid ore, are seen in this State, not only at Ringwood, but in Morris County, near Succasunny, and at intervals as far indeed as the Delaware River. They are not unfrequent also in the same range of hills, passing near Easton and along the northern side of Berks and Lancaster Counties, in Pennsylvania. A few details respecting the mode in which the beds of this ore present themselves in the gneiss ranges of New Jersey, will serve to illustrate their features over nearly the whole region just sketched.

"A general description of the iron veins of the primary region of New Jersey may be given in the following terms. They are true *lodes* or veins of vast longitudinal extent *always in the direction of the strata including them.* They occur in the granitic gneiss rock *ranging* and *dipping* with it. Their irregularities are extremely few, being liable only to occasional swells, insignificant slides, and trivial disturbances of pitch and direction; while they are never to my knowledge pinched out or cut across and dislocated by great faults, as are the metalliferous veins of many of the mining districts of Europe and other parts of the world. When several occur together, their course is parallel. Their usual thickness is between six and twelve feet, though short veins are seen of all smaller dimensions, while the larger ones are seen here and there to swell by an occasional undulation to even much greater thickness. Some of these veins dip as little as fifty degrees, while others have an inclination approaching to verticality. Though excavated here and there in small mines, they have nowhere been followed to a greater depth below the surface than about two hundred and twelve feet, the depth of the workings in the Mount Pleasant mine. In nearly all the shallower mines, the veins are worked open to the air.

"The ore belongs to the species denominated oxydulated iron, or magnetic iron ore, and is of two varieties, compact and earthy. It consists, when pure, of per-oxide of iron, seventy-two per cent., and protoxide of iron twenty-eight per cent., or in all of about sixty-seven and a half per cent. of metallic iron. It is magnetic, attracting the needle, and is often endowed with magnetic *polarity* attracting soft iron, in which case it is the loadstone. It is often massive, associated with no foreign minerals, though the variety most desirable for making iron is granular, composed of imperfect crystals which are often mingled with small crystals of other minerals, sometimes green hornblende or quartz. It is possible that portions of this ore may contain titanium, though such facts, however important to the manufacturer, can only be ascertained by elaborate and multiplied analyses, a few of which I have made upon this point. The disposition of the ore in the vein is that of a solid mass, invested by no gangue, but sometimes containing dispersed through it small granules and crystals of other minerals. It often exhibits a tendency to cleave, by natural joints running from one wall of the vein to the opposite, a structure which suggests in appearance a strong analogy to the *horizontal columnar arrangement* seen in some vertical dikes of lava and basalt. This, if other proof were wanting, I should regard as a strong argument for maintaining that these veins of ore have been injected in a fused or molten state into the strata after they have appeared, and are not *beds* in the true sense, or layers formed contemporaneously with the surrounding rock. This point, though seemingly one of theory alone, is of much practical moment, as acquainting the miner with the nature of the veins he has to deal with.

"The walls of the veins are usually smooth, compact, and regular, consisting not unusually of some of the less common varieties of the adjacent gneiss—being sometimes very micaceous, and at others, constituted almost solely of the hornblende or red felspar.

"The first theoretical inference naturally suggested by the remarkable manner in which all the veins without exception occur, is that the strata of the formation were, in all probability, at a pretty steep inclination previous to their appearance between the rock; for it is inconceivable how a forcible injection of fluid ore could enter a series of beds, lying in a nearly horizontal position, without in one case causing and occupying fissures *transverse* to the strata. The fact that similar veins, those of the altered white limestone of Sussex, occupy a corresponding position in reference to the neighbouring strata, and appear to have been produced after the formation of the limestone, is another argument giving probability to the idea that their origin was subsequently to the appearing of the gneiss.

"On the other hand, it is not difficult to conceive that if the beds were previously nearly vertical, or at a high angle, the molten ore would more easily insinuate itself between the layers of the rock in which direction, of course, the strata would most readily give way, than enter the mass in directions oblique to the edges of the beds. If the rule be a general one, that these veins range and pitch parallel with the strata, we are led to some important general views for seeking and opening mines in this region. One is that the veins of ore may be expected to follow the same layer or bed of rock for a considerable distance, and that the nature, therefore, of the *adjoining rock* will often prove a clue to recover a known vein in the direction towards which it is prolonged. Another is, that when levels are cut or shafts sunk to reach a vein, the indications of which are supposed to appear upon the surface, the excavations should be made on that side of the presumed *outcrop* of the vein, which is towards the *underlie* or dip of the gneiss, for the vein, keeping parallel with the rock, will descend in that direction." (*Report on the Geology of New Jersey.*)

Somewhat similar veins of the micaceous oxide of iron are occasionally met with in the primary strata of not only New England but the States further south; one vein, several feet in width, traversing mica slate and granite, in Montague, near the mouth of Miller's River, in Massachusetts, while some are known in Buckingham County, Virginia, yielding excellent iron.

Lead in some portions of the primary region of the United States is tolerably abundant, though the principal repository of it is an ancient secondary limestone, which traverses Missouri, the western part of Illinois, and the Wisconsin Territory west of Lake Michigan. We refer to Cleveland's Mineralogy for the following remarks on the lead of this western region.

"It occurs in Arkansas Territory, on James River, 20 miles above its junction with Findley River. The Osage Indians smelt the ore and obtain bullets. (*Schoolcraft.*) In Missouri, it abounds in the counties of Washington, St. Genevieve, Jefferson, and Madison. The ore is found in an alluvial deposit of stiff red clay, which is often marly, and contains numerous detached masses of quartz, there called the blossom of lead; this alluvium, which varies from 10 to 20 feet in depth, rests on limestone, which appears to belong to the transition class. This galena, which has usually a broad foliated structure, and a very high lustre, occurs in masses of various sizes, in veins, in beds, and is most abundant in the marly clay. It is associated with sulphate of barytes, calcareous spar, quartz and blende. Although the number of mines is 45, the limestone, on which the alluvium rests, has been penetrated in but very few instances. The ore yields, on an average, from 60 to 70 per cent., and the average annual product of the mines is upwards of 3,000,000 pounds of lead. Galena is, in fact, found in various places from Arkansas River to the Northwestern Territory, in which are the important lead mines of Prairie du Chien, now imperfectly worked by the Sacs and Foxes, the original owners of the soil. (*Schoolcraft.*) The deposit of galena, in which the mines of Missouri are situated, is evidently one of the most extensive and important hitherto discovered."

To return to the primary rocks, galena is found in Massachusetts, at Southampton, in a vein six or eight feet wide, traversing granite and other primary rocks. The bulk of the vein is quartz, from which lumps of ore were dug out, of every size, from half an inch to a foot in diameter. It has been dug to the depth of forty or fifty feet, but the water accumulating, this mine has not of late been further explored. The ore afforded from 50 to 60 per cent. of lead, and contained 12 ounces of silver to the ton. Associated with this ore, are here found also the carbonate, sulphate, molybdate, muriate, and phosphate of lead, besides the sulphuret of zinc, pyritous copper, fluor spar, and sulphate of barytes.

A vein several feet wide was formerly explored not far from this, in Hampshire County, and several more in Massachusetts could be mentioned.

Very recently, a rich locality of galena has been developed in the primary region, in St. Lawrence County, New York, furnishing, it is said, an abundant supply of ore, which yields 80 per cent. of lead.

Copper.—The ores of this metal seem not to prevail to any very profitable extent in the United States. Among the stratified primary rocks in Georgia and South Carolina, genuine veins of pyritous copper, and sometimes containing gold, occur; but throughout the more numerous localities where the combinations of the metal are seen, the manner of their diffusion is such, not being in true veins, as must have a tendency to repress much hope of converting them into mines. By far the greater number of the places where copper has been found, belong to the extensive belt of red shales and sand-stones that range near the primary from Virginia to the Hudson, and along part of the Connecticut valley; and what is curious, these spots are almost invariably adjacent to some of the various ridges or dykes of trap which traverse the strata of this range. In these cases the ore is intimately mingled throughout the broken substance of the red rock, which presents not uncommonly the aspect of having been altered by heat; it is hardly in one instance known to assume the form of a true vein, or to fill a fissure of any considerable length or width. The most common ore is the green carbonate of copper, sometimes associated with the blue sulphuret, the red oxide, or native copper. Mining enterprises have been set on foot to work these ores, at various times, from a period long antecedent to the revolution, to the present day, along the whole range, from Massachusetts to Virginia, but have not hitherto resulted in the establishment of a single permanent mine.

In several places, near the junction of the trap or green-stone with the sand-stone, between New Haven and Vermont, such explorations have been made. The Sunsbury mine, in Granby, Connecticut, worked before the revolution, afterwards converted into a State prison, and lately explored anew, is the principal one in that part of the formation which follows the valley of the Connecticut River.

Abortive attempts at mining copper in this red sand-stone formation have been more perseveringly made in New Jersey, perhaps, than in any other part of the tract. The principal points are near Belleville, Griggstown, Brunswick, Woodbridge, Greenbrook, Somerville, and Flemington. In the Schuyler mine near Bellville, the ore occurs in a belt of the sandstone, dipping by broken steps rather gently. It has been worked two hundred and twelve feet below the surface, and one hundred and fifty feet horizontally. The chief ores are the sulphuret and carbonate of copper, generally distributed amid portions of the red sand-stone much indurated.

The Bridgewater copper-mine, at the base of a trap-ridge near Somerville, was at one time wrought with some spirit, but resulted in failure. The ore was rich, having occasionally in it red oxide and native copper, but was chiefly green carbonate. The position of the ore was close to the junction of the trap and shale, lying in portions of the latter, evidently greatly altered by heat.

The Flemington mine is in a belt of red sand-stone and shale, into the substance of which the ore seems as it were sublimed. It is a mixture of gray sulphuret and carbonate intimately blended with the semi-indurated and altered sand-stone. The ore is either spread through it, or coats the sides of small fissures, or is in small lumps, in a broken fragmentary variety of the rock having the aspect of a breccia. Though wrought with some vigour, this mine has not proved hitherto profitable. A ridge of trap-rock is not far off from this belt of metalliferous rock, in which nothing in the form of a regular vein has yet been discovered.

We might enumerate many more localities ranging at intervals across Pennsylvania, Maryland, and part of Virginia, where precisely the same kind of mines, productive of a similar unfortunate issue, have been opened, but we have dwelt enough already on this point to give a lesson of caution on the subject.

Zinc.—The localities of this metal are a good deal scattered throughout the United States. As the sulphuret, or blende, it does not appear in any considerable body anywhere in the country. Perhaps the most conspicuous spot for blende is the Perkiomen lead-mine in Pennsylvania, where it occurs in the yellow, brown, and black varieties. It is seen also in the lead veins in Hampshire county, Massachusetts.

The red oxide of zinc is found in large quantities in Sussex county, New Jersey, associated with the interesting mineral Franklinite, in the only locality known. We present the following description of these ores and their locality, from the pen of Dr. Fowler of Franklin:—

"Perhaps in no quarter of the globe is there so much found to interest the mineralogist, as in the white crystalline calcareous valley commencing at Mounts Adam and Eve in the county of Orange and State of New York, about three miles from the line of the State of New Jersey, and continuing thence through Vernon, Hamburg, Franklin, Sparta, and Byram, a distance of about twenty-five miles in the county of Sussex and State of New Jersey. This limestone is highly crystalline, containing no organic remains, and is the great imbedding matrix of all the curious and interesting minerals found in this valley. When burned it produces lime of a superior quality. A considerable quantity of this stone is burned into lime near Hamburg, and when carted to the towns below, as Paterson, Newark, &c. is sold for one dollar per bushel. It is principally used in masonry, for white-washing, cornice-work and wall of a fine hard finish, and is considered superior to the best Rhode Island lime. Some varieties, particularly the granular, furnish a beautiful marble; it is often white, with a slight tinge of yellow, resembling the Parian marble from the island of Paros; at other times, clouded black, sometimes veined black, and at other times arborescent.

"*Franklinite.*—A new metalliferous combination, containing, according to Berthier, of oxide of zinc 17, of iron 66, and manganese 16, is very abundant, indeed it appears inexhaustible. It commences about half a mile northeast of Franklin furnace, and extends two miles southwest of Sparta, a distance of nine miles. It is accompanied in this whole distance by the red oxide of zinc, mutually enveloping each other. The greatest quantity appears to be at Franklin furnace. The bed here is about one hundred feet above the adjoining land, on the west side of it, and from ten to forty feet wide. Various attempts have been made to work this ore in a blast furnace, but without success. It frequently congeals in the hearth, before time is allowed to get it out in a liquid state, in consequence of a combination of the iron with manganese. All this difficulty, I apprehend, might be overcome, if a method could be discovered of smelting iron ore in a blast furnace with anthracite coal; as the Franklinite requires a greater degree of heat to cause it to retain its liquid state, than can be obtained by the use of charcoal. It occurs in grains imbedded in the white carbonate of lime, and detached in concretions of various sizes, from that of a pin's-head to a hickory-nut; also in regular octohedral crystals emarginated on the angles, small at Franklin, but very perfect, with brilliant faces. At Sterling the crystals are large and perfect. I have one from that place that measures sixteen inches around the base.

"*Red Oxide of Zinc.*—At Sterling, three miles from Franklin, a mountain mass of this formation presents itself about two hundred feet high. Here, as Mr. Nuttall truly observes, the red oxide of zinc forms as it were a paste, in which the crystals of Franklinite are thickly imbedded; in fact, a metalliferous porphyry. This appears to be best adapted for manufacturing purposes. The Franklinite imbedded in the zinc ore here, is highly magnetic, and may be all separated by magnetic cylinders, recently brought into use to separate the earthy portion of magnetic iron ore. It was long since observed that this ore is well adapted for the manufacture of the best brass, and may be employed without any previous preparation. It is reduced without any difficulty to a metallic state, and may be made to furnish the sulphate of zinc (white vitriol). Berthier found it to contain oxide of zinc 88, red oxide of manganese 12." (*See Gordon's Gazetteer of New Jersey.*)

"The vein or series of veins containing the Franklinite iron ore, and the zinc, I look upon as belonging, most probably, to that great system of parallel veins of magnetic oxide of iron, known to occur so extensively in the same primary strata, with which this white limestone is in contact. According to this view, where the veins have burst up adjoining the common boundary of the primary region and the blue limestone, they have altered the structure of the latter rock, and imparted to it those minerals which never show themselves in limestone but where it gives evidence that it has sustained a great elevation of temperature and a partial fusion. Other cases of a like nature with that at the Franklin furnace, occur along the limit which separates the secondary from the primary strata; one has been specified as existing near the northeast foot of Jenny Jump, and I have encountered indications of more in boulders of the crystalline limestone, holding crystals of various minerals, in the manner visible at Sparta and Franklin. These boulders are numerous near the eastern corner of Oxford township, in Warren. All these facts are invested with much scientific interest, as the changes supposed to be superinduced upon stratified rocks by *igneous causes*, are connected with discussions involving some of the fundamental doctrines of modern geology." (*Geological Survey of New Jersey.*)

Gold.—This precious metal exists rather widely diffused through the southern primary region of the United States. The auriferous belt lies towards the western side of the primary, and may be said to stretch from the Rappahannock River, in Virginia, to the southwestern side of Georgia. The gold is found chiefly in veins of quartz which penetrate the gneiss rocks, mica slates, and more especially the talc slates of this region. It occurs likewise in the alluvium composed of the detritus of these auriferous veins and the adjoining rocks. As the features under which the gold is seen, are pretty uniform over the whole tract, we, for the purpose of giving a correct general conception of the structure, position, and contents of the veins, introduce a few extracts here regarding the gold of Virginia, which will serve as an example of its occurrence in the other states. We may mention that the average width of the gold-bearing belt of rocks is about 20 miles, but that only a portion of the quartz veins in this range are auriferous, while wide spaces in the line occur where no gold in quantity sufficient to mine has yet been discovered.

"In Spottsylvania and the adjacent counties, Orange, Louisa, Fluvanna and Buckingham, numerous veins have been wrought for some time; from many of which rich returns have been procured, and under improved modes of operation a still larger profit may be expected.

"The material of the veins is a variegated quartz, sometimes translucent, at others opaque. It is generally of a cellular structure, fractures without much difficulty, and in many instances contains a considerable proportion of water, dispersed through its substance. Its surface, recently exposed, displays a variety of tints of brown, purple, and yellow, of such peculiar aspect as to resemble a thin lacquer spread unequally over the rock. •The cavities are often filled with a bright yellow ochre, or hydrated peroxide of iron, which generally contains gold in a state of minute division. Sulphuret of iron, (pyrites,) is another accompanying mineral, which in many mines occurs in considerable quantities. At Morton's mine, (Buckingham,) it is peculiarly abundant, and there, as in other places, generally contains a portion of combined gold. In the Union mine, near the Rappahannock, some of the auriferous veins consist largely of the pyrites, which here contains so much of the precious metal as to render the extraction of it an object of profit. This pyrites, in all probability, was at some former period, more generally diffused throughout all the auriferous veins, and by its decomposition, gave rise to the peroxide of iron, with which the quartz is always more or less imbued, while the gold existing in it was deposited in the cells and fissures of the quartz. *Silver* is occasionally found in connexion with the gold, and the sulphurets of copper and lead have been discovered in a few instances in the auriferous rock.

"The rocks forming the boundaries of the auriferous veins, vary very much in different localities. Talcose slate, chlorite slate, and a variety of these, abounding in garnets, are the most usual. They are commonly of a soft texture, yielding readily to the blast, and even to the pick or spade sometimes. Instances occur, however, in which the walls of the vein are of such hardness as to greatly increase the expense and difficulty of procuring the ore. Of this a striking example is exhibited in Morton's mine, where the rock is removed with difficulty even by the blasting process, while at Booker's and some other mines, its texture is so rotten that it rather presents the appearance of earth than rock. Veins like the latter, under favourable circumstances, would give rise to what are technically called *deposit mines*; in other words, collections of clay and sand and gravel, enclosing a portion of gold, all which materials have been removed by the action of torrents or streams from their original position in the vein, to some adjacent ravine or hollow, in which they have been quietly deposited. The rocks adjacent to the quartz are often auriferous, and in some instances have been found as productive as the quartz itself. Of this, several striking instances occur in the mines of Buckingham; and I believe that in many other localities the same condition would be found to exist."

"Besides the auriferous veins of the region in which gold occurs, there exist many other veins of quartz agreeing with those which have been found productive in nearly all particulars, save that of containing a valuable proportion of the precious metal. It is highly probable that none of these veins are entirely destitute of gold, and in many instances no doubt the prosecution of the vein would lead to the discovery at other points of it, of an ore sufficiently rich to reward the labour of the extraction. Indeed, it must be looked upon as probable, that the auriferous character, more or less, pervades the quartz veins generally, even as far as their western limit in the Blue Ridge. The striking similarity in the character of them all, and the obvious *contemporaneousness of their origin*, would seem to give great plausibility to this opinion; and if we are to credit the statements of the discovery of gold in the western part of Albemarle, and at one or two other points equally remote from the gold region, as usually defined, we can no longer doubt the propriety of regarding the Blue Ridge as the proper western boundary of the auriferous rocks. A careful investigation of the numerous large quartz veins ranging along the valley between the Southwest Mountain and Blue Ridge, becomes in this point of view a matter of great importance; and should the auriferous character be found pervading these veins, as is not improbably the fact, the extent and value of the gold region of the state will scarcely have a parallel upon the globe." (*Geological Reconnoissance of Virginia.*)

Gold has recently been discovered in a talc slate formation in Somerset, in the southern part of Vermont, but whether there will ever be found here any extensive auriferous tract is at present uncertain.

The other precious metals do not exist in the United States in quantities to justify any special mention of them; and this is not the place to introduce any thing respecting the crystallized minerals of the country, which, in New England especially, are found in great profusion, presenting some varieties highly interesting to the mineralogist.

True volcanic rocks are nowhere seen among the formations of the territory of the United States east of the Rocky Mountains. On the western side, especially of the vast Chippewayan chain, rocks of volcanic origin are distributed in remarkable abundance.

We shall conclude this sketch of the Geology of the United States with a few extracts from the "Proceedings of the Geological Society of London,"* on the Physical Geography and Geology of the region between the Mississippi River and the Pacific Ocean.

"The district includes the vast tract extending from the Mississippi to the Pacific, and from the 36th to the 49th degree of north latitude. The principal physical features of the country are the Rocky Mountains; and the immense plains which extend from the Mississippi to that range, circle round its southern termination, and are prolonged into Mexico, and northward to an unknown distance.

"The Rocky Mountains consist, as far as they have been examined, of primary formations, and their eastern chain, the Black Hills, of gneiss and mica slate, green-stone, amygdaloid, and other igneous rocks. Chains of primary mountains, separated by sandy plains and volcanic tracts, constitute the country between the Rocky Mountains and the Pacific; but to the east of that range are several nearly horizontal formations, of the limits or the relative age of which little is known.

"The country from the falls of the Platte to the mountains, and from the Missouri to the Arkansas and the Rio Colorado, as well as the plains included within the Rocky Mountains, is composed of a red saliferous sand-stone, containing beds of clay; and it is supposed that the same formation extends into Mexico, and that the red sand-stone described by Humboldt as occurring extensively in the southern parts of the continent, may belong to it. The general colour of the sand-stone is red, but it is sometimes gray or white. The saline contents are principally muriate of soda, but other salts of bitter and cathartic properties likewise abound. Brine springs are of general occurrence; and rock-salt is found in large beds west of the Rocky Mountains, as well as on the Rio Colorado, and south of the great Salt Lake. The surface of the ground, especially of the banks of the ravines, is often also thickly encrusted with saline matter. Gypsum is likewise found in many parts of the country; and fossils are said to abound in the sand-stone on the river Platte. In the neighbourhood of the Rocky Mountains the formation is covered with a deposit of gravel and boulders, apparently derived from the adjacent hills; but at a distance from them it is overlaid by a bed of loose barren sand, the drifting of which the author conceives may partially conceal the existence of other formations, especially of that green-sand which occurs so extensively on the Missouri above the river Platte.

"At the eastern base of the Rocky Mountains and for a short distance up their declivity, are various conglomerates and gray and red sand-stones, dipping at high angles; but these deposits are not considered to belong to the great sand-stone formation, as they contain no salt.

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* Communicated by H. D. Rogers, of Philadelphia. See No. 37, of Proceedings, &c.

"In ascending the Missouri from its confluence with the Mississippi the banks are in many cases composed of limestone cliffs, 200 and 300 feet high, containing Productæ, Terebratulæ, and Encrini: hills of this limestone occur also near the Chariton, and in the same district is good bituminous coal.

"Above the junction of the Platte with the Missouri are beds of sand-stone and dark blue shale, and a little higher, adjacent to the Au Jacque, are high, perpendicular bluffs of a formation considered to be true chalk. This deposit extends for several miles up the Missouri, and it occurs further down the river about the mouth of the Omawhaw; but its lateral extent is not known. No flints have yet been noticed *in situ*, but pebbles and nodules of flints, similar to those so abundant in the valley of the Thames, are numerous lower down the river, even as low as the Mississippi. Belemnites have been picked up in the same district.

"From below the Big Bend to the Rocky Mountains, both on the Missouri and the Yellowstone River, is a vast formation, said to be very rich in fossils, indicating an upper secondary group; and the matrix in which the shells are imbedded resembles very closely some of the green-sand beds of Europe. The fossils mentioned in the paper are a Hamite, a Gryphæa considered to be the *Gryphæa Columba*, and *Belemnites compressus*. This formation has not been traced continuously over the whole area alluded to, but the same fossils have been brought from the beds of the Missouri and Yellow-stone Rivers, and from their springs in the Rocky Mountains: they have likewise been found west of that range.

"Above the Big Bend occurs also an extensive range of horizontal beds of lignite, sandstone, shale, and clay, forming bluffs 200 and 300 feet high, and continuous for several days' journey. Lignite is also found on the Cherry River, and along the whole of the country watered by the Powder River, in beds from 3 to 9 feet thick. This formation is conceived to be more recent than that which contains the fossils, as the latter has a slight westerly dip, and therefore may underlie it.

"Silicified trunks of trees are stated to have been noticed on the banks of the streams, and are considered by the traders to have fallen from the bluffs.

"No recent volcanic production appears to have yet been brought from the country east of the Rocky Mountains, with the exception of the pumice which annually descends the Missouri; but nothing is yet known of the quarter whence it is derived. West of the mountains, however, from the Salmon River to beyond Lewis's River, and for a considerable distance around the insulated mountains called the Butts, the country is said to be composed of lava traversed by a multitude of deep, extensive fissures, having a general direction from northwest to southeast, and nearly parallel to that of the mountains.

"Volcanic mounds, cracked at the top and surrounded by fissures, are numerous over the whole region; but no lava appears to have flown from them, and we may conjecture that they were formed by the action of elastic or gaseous matter. In many places, deep circular funnels, a few yards in diameter, penetrate the surface. For more than 40 miles the Columbia runs between perpendicular cliffs of lava and obsidian, from 200 to 300 feet high, which are traversed by great fissures, and present all the phenomena of dykes in the most striking manner. The Malador branch of the Columbia flows through a similar gorge.

"We take this occasion to correct the accounts previously given of the great salt lake, which has lately been journeyed round, and ascertained to have no outlet, though it receives two considerable streams of fresh water. The length of the lake is estimated to be 150 miles, and its breadth 40 or 50.

"Thermal springs abound along the base on each side of the Rocky Mountains, and in the volcanic district. They are stated to vary in temperature from blood-heat to the boiling-point; and to form, from their earthy contents, large mounds, sometimes of a pure white, hard, siliceous nature, and at others of a substance which, on drying, becomes pulverulent. In the volcanic district some of the springs are said to be sour; and many sulphureous springs occur both in and west of the mountains. Lastly, pure sulphur has been occasionally seen above the Great Salt Lake, and at the eastern base of the mountains, but none in the volcanic district."

TABLE

OF THE

GEOLOGICAL FORMATIONS OF THE UNITED STATES.

PERIODS.		GENERAL CHARACTER OF THE STRATA.	LOCALITY AND RANGE OF THE SEVERAL FORMATIONS.
TERTIARY ROCKS.	NEWER PLEIOCENE.	A lead-coloured clay.	St. Mary's county, *Maryland*, near the mouth of the Potomac.
	OLDER PLEIOCENE.	Alternating sands and clays, containing numerous fossil shells, and other remains of marine origin.	In *North Carolina*, near Edenton, and probably throughout some extent of country adjacent to Albemarle Sound.
	MEIOCENE.	Alternating beds of sand, clay, and marl, all abounding in marine fossil shells, sometimes in a friable and pulverulent state. Frequently these strata, especially the sands, contain a considerable proportion of the granules of green-sand. Towards the base of the series the stratum is usually a blue clay.	In *New Jersey*, in Cumberland co., on Stow Creek. *Delaware*, at Cantwell's Bridge. *Maryland*, nearly all the Eastern Shore below Cecil co., the whole of Charles, St. *Mary's*, Calvert, and part of *Prince* George counties. *Virginia*, nearly all the region between the ocean and a line about 20 miles east of the head of tide in the rivers. *North Carolina*, near the towns of Murfreesboro', Wilmington, and throughout Craven, Duplin, and the same belt of counties, running north and south. In *South Carolina*, Vance's Ferry, on Santee River, seems to be about the termination of the formation towards the south.
	EOCENE.	Consisting of beds of greenish yellow earth, or dark blue or brown earth; a mixture of sand and clay, with some mica — usually a good deal of green-sand and fossil shells, more or less obliterated, and generally some sulphate of iron. In the far south, a series of white and lead-coloured limestones and ferruginous sands, and a fine-grained siliceous rock, full of the vacant casts of shells, used as a buhrstone, in Georgia, for millstones.	In *Maryland*, at Upper Marlborough and Fort Washington, and on the Potomac River for 20 miles below. *Virginia*, in a belt ranging from north to south across the State, between the primary rocks and a line about 12 miles east of them. *South Carolina*, passing Vance's Ferry. In *Georgia*, crossing Savannah River at Three Runs, Shell Bluff, and Silver Bluff, also near Milledgeville, and in Burke and Early counties. *Alabama*, in Wilcox co., and at Claiborne and St. Stephen's. West of the Mississippi, on the Washita River at Monroe.
SECONDARY ROCKS.	FORMATIONS OF THE CRETACEOUS, OR GREEN-SAND PERIOD.	(*a*) The upper strata, yellowish and white friable limestones, full of secondary fossils, with two or three species found in the Eocene.	(*a*) An extensive basin to the west of Charleston, *South Carolina*. *Alabama*, in Clarke county.
		(*b*) Friable limestones, sometimes white and chalky, sometimes bluish and compact;—older in the series than the above, having many secondary fossils.	(*b*) In *North Carolina*, the older calcareous beds extend for many miles along the Cape Fear River, and coastwise as far north as Cape Hatteras. *South Carolina*, on Lynch's Creek, Pedee and Santee Rivers. *Alabama*, Wilcox co., at Prairie Bluff, and several adjacent counties: also, in *Mississippi*, *Tennessee*, *Louisiana*, and *Arkansas*, and far up the Missouri and Yellowstone.
		(*c*) A series comprising a brown ferruginous sand-stone and conglomerate; a yellow ferruginous sand, sometimes with beds of the same cemented into rock, and then containing fossils. Also, a yellowish calcareous sandstone, sometimes running into a limestone, and beneath all, an alternation of beds of blue astringent sandy clay of the same, mingled with more or less green-sand, and of the green-sand almost alone in a pulverulent state, abounding in fossils.	(*c*) *New Jersey*, from the Raritan Bay through Monmouth, Burlington, Gloucester, and Salem counties, to the Delaware River. Across *Delaware*, in the line of the Delaware and Chesapeake Canal, into Cecil county, Maryland, where, near the Sassafras River, the green-sand series ceases to show itself.

TABLE OF GEOLOGICAL FORMATIONS—*continued.*

	PERIODS.	GENERAL CHARACTER OF STRATA.	LOCALITY AND RANGE OF THE SEVERAL FORMATIONS.
SECONDARY ROCKS.	FORMATIONS OF THE MIDDLE SECONDARY PERIOD.	A sand-stone formation, containing silicified remains of *Cycadeæ*, denoting an age near to that of the Oolites:—general character, that of a soft whitish coarse freestone, with beds of conglomerate, and alum shale.	Ranges from the Potomac River below Mount Vernon, along the west side, through *Virginia*, in a nearly south course, parallel to the primary belt, on the eastern side of which it rests. Is exposed at Fredericksburg, at the junction of the North and South Anna Rivers, on James River below Richmond, and in the same line, further south.
		A series in which the predominating rock is a brownish-red argillaceous sand-stone, with red and green shales, red arenaceous sand-stones, and gray and yellowish conglomerates. Includes the Potomac marble, a very coarse heterogeneous, but highly calcareous conglomerate, usually with a red cement. No characteristic fossils, and hence the precise age of this series is uncertain.	Occupies part of the valley of the Connecticut River, from the southern part of *Vermont* to New Haven: and ranges along the western side of the primary strata of the Middle States, keeping east of the Blue Ridge system, from the Hudson River, across *New Jersey*, passing New Brunswick; *Pennsylvania*, passing Norristown and Gettysburg: *Maryland*, passing Fredericktown, and the Potomac River near the mouth of the Monocacy Creek, until it dies out in *Virginia*.
	FORMATIONS OF THE CARBONIFEROUS PERIOD.	Sand-stones, chiefly white, containing common salt, argillaceous sand-stones and shales, reddish, buff-coloured, and dark gray coal shales, coarse white quartzose conglomerates, thin argillaceous limestone beds, fire clay, with nodular argillaceous iron ore, and seams of bituminous coal,—the whole, in almost endless alternation, composing a vast series of coal measures.	Seen in the Alleghany table-land, ranging from the northeastern part of *Pennsylvania* to *Alabama*, and in the Western States as far as *Missouri*, 200 miles westward beyond the Mississippi. Also, in a detached coal-field in Goochland, Hanover, and Chesterfield counties, in *Virginia*. In a detached coal-field in Nova Scotia.
	FORMATIONS OF THE GREYWACKE PERIOD.	(*a*) Anthracite coal measures, consisting of thick seams of anthracite, shales, gray and red, of sand-stones, white, gray and red, and of beds of coarse quartzose conglomerate. Vegetable fossils.	These formations are confined chiefly to the valleys and mountains of the Appalachian region and the plains of *New York* continuous with it. The anthracite coal lies chiefly in *Pennsylvania*, between the Susquehanna and Lehigh Rivers.
		(*b*) A coarse white and gray quartzose conglomerate. No fossils.	The conglomerate (*b*) is well seen in the Sharp Mountain, in Schuylkill county, *Pennsylvania*.
		(*c*) Argillaceous brownish red sand-stones and shales, thin calcareous fossiliferous beds, with encrini and shells.	The red rocks (*c*) in the Broad Mountain, and on the lower part of the Juniata River, in *Pennsylvania*.
		(*d*) Red and green shales, with subordinate beds of limestone in the upper part.	The red and green shales (*d*) may be studied in Mifflin county, *Pennsylvania*.
		(*e*) A rather fine-grained white sandstone, abounding in fucoides and fossil shells.	The fucoidal sand-stone (*e*) constitutes the summits of by far the greater number of the Appalachians south of the Juniata River, through *Pennsylvania*, *Maryland*, and *Virginia*.
		(*f*) A red sand-stone, sometimes very argillaceous, passing lower down, into a red shale, having occasional bands of limestone.	The red rocks (*f*) lie usually near the base of the same.
		(*g*) A dark gray slate, with occasional subordinate beds of blue limestone.	The dark slate (*g*) is found most usually in the valleys between the Appalachians, and skirting near their base, or filling the whole valley, if it contains none of the limestone (*h*).
		(*h*) Blue limestone, in places very full of fossils, and again, destitute of them throughout wide areas. Contains much brown argillaceous iron ore. In this rock are found, trilobites, and other ancient fossils.	The blue limestone (*h*) composes the floor of a number of the principal valleys in the Appalachian region, and is the chief rock in the vast valley which lies west of the Blue Ridge.
PRIMARY ROCKS.	STRATIFIED PRIMARY ROCKS.	Talcose slates, mica slates, chlorite slates, micaceous gneiss, hornblendic gneiss, felspathic gneiss, limestone, serpentine, scapolite rock, &c.	These rocks are found, in all their modifications, ranging through the western part of New England. Massive gneiss forms the Highlands of *New York* and *New Jersey*. Talcose and chlorite slates, connected with crystalline limestone and serpentine, lie along the western side of the primary belt of the Middle and Southern States. The eastern side of the same consists chiefly of mica slate and micaceous gneiss.
	UNSTRATIFIED ROCKS.	Granite. Sienite. Porphyry. Green-stone.	Granite composes the greater part of the surface of *New Hampshire* and *Maine*, and some of the eastern part of *Massachusetts*. The White Mountains are of granite. Sienite occurs in the same region:—well seen in the Blue Hills, near Boston. Porphyry occurs around Boston, as at Nahant. Green-stone is abundant in the middle and western parts of New England, and in ridges traversing the red shale and sand-stone formation of the middle secondary period.

SUBSECT. 2.—*Botany.*

North America contains two forest-regions, the Eastern and Western, and an intermediate unwooded region.

The Eastern part of this continent is, or rather was, prior to the introduction of civilisation, occupied by an unbroken forest; extending from Hudson's Bay to the Mexican Sea, and westward far beyond the Mississippi, though more irregularly, being confined to the immediate banks of the streams on approaching its termination. The only encroachments by unwooded districts, or Prairies, are in the North, through the central parts of Illinois, Indiana, and even Ohio; and in the South, through a part of Mississippi and Alabama, to the frontiers of Georgia. This is one of the most extensive forests known, and notwithstanding so much of it has been destroyed for agricultural purposes, it still holds dominion over far the greater portion of the soil; though spots where it presents its primeval aspect, untouched by the Woodman's axe, or the fires of the Hunter, are now rare. The only points that naturally escape its sway, are a few marshes bathed with sea-water, or under other peculiar circumstances, and the summits of a few mountains in the northern part of New England.

This vast forest is composed of about 140 different kinds of trees, of which more than eighty attain the height of sixty feet and upwards. The most characteristic forms as distinguishing this from other forests, are the Hickories (*Carya*), the Tupelos (*Nyssa*), the Liriodendron or Tulip-tree, the Taxodium or American Cypress, the Locust (*Robinia*), the Gymnocladus, and the Negundo. It is further remarkable for possessing numerous Oaks, Ashes, and Pines, several Magnolias, a Gordonia, a Plane, a Cupressus, a Liquidambar, a Tree Andromeda, three Gleditschias, a Virgilia, a Laurus, three species of Celtis, two of Æsculus, two Walnuts, and three Tilias.

Within this wooded region are found only such shrubs and herbaceous plants, as in general require more or less protection from the direct rays of the sun. This has been a principal cause of our cultivated grounds and pastures being so exclusively occupied by introduced plants; and were the forest permitted to regain possession of the soil, these exotics would be driven out altogether, or confined to the sea-shore, the banks of the larger streams, or the summits of a few hills in exposed situations.

The geographical distribution of these 140 species of trees, as well as of the humbler plants, will be most conveniently described by a division into districts, for the most part gradually blending into each other, but which, notwithstanding, seem pretty strongly marked in nature.—1. The *northern*, extending as far south as lat. 44°, at least on the coast.—2. The *middle*, from lat. 44° to 35°, and which is distinctly divided by the Alleghanies into two sub-regions: a third should be added, for the southern termination of the Alleghanies requires a place by itself.—3. The *southern*, from lat. 35° to lat. 27° in Florida, beyond which, according to Mr. Ware, the character of the North American vegetation is merged in the Tropical.

1. The NORTHERN DISTRICT.—The *forest* commences on the north with the Spruces, at first almost exclusively; but farther south, appear among them the Arbor vitæ (*Thuya occidentalis*), the Red and White Pines, and in the low grounds the Hackmatack or American Larch. These trees, all of the Pine family, form such deep-shaded woods, that often scarce a plant can exist beneath; unless it be the Pyrolas, the Coptis trifolia, the Goodyeras, the Gualtheria procumbens and hispidula, the Mitchella, and such plants as may be said to be naturally *etiolated*, or destitute of any green colour, as the Monotropas, Pterospora, and the Corallorhizas. They also to a certain extent modify the climate, their evergreen foliage prolonging the duration of snow by keeping out the rays of the sun, while deciduous woods produce rather the contrary effect, by reverberating heat. The *deciduous* woods do not extend quite so far north as the Pine, and become more and more prevalent on advancing south. They are composed chiefly of the following few species of trees; the Canoe Birch, the Yellow and Black Birch, Quercus ambigua, Populus balsamifera, P. tremuloides and grandidentata, the true Sugar Maple, the Red Maple, and Red Beech. The American Elm may almost be called a Canadian tree, for it is in the north that "this most magnificent tree of the temperate zone" attains its finest proportions.

The *underwood* consists of the Striped and Mountain Maples, 4 Cherries, Sambucus pubens, Viburnum lantanoides and oxycoccus, the Diervilla and three species of Xylosteum, numerous Willows, the Rhodora, Ledum latifolium and Kalmia glauca, several species of Ribes, Shepherdia Canadensis, Spiræa tomentosa, 4 Roses, some species of Amelanchier, Sorbus Americana, the Nemopanthes, Rhamnus alnifolius, Corylus rostrata, Alnus undulata, Pinus Banksiana, Juniperus prostrata and Taxus Canadensis, the red-flowering Raspberry, Betula pumila and populifolia, and Aronia melanocarpa. Climbing plants seem to be almost wanting, unless Lonicera parviflora and hirsuta belong to this region, few others wandering from more southern latitudes.

The *herbaceous and smaller plants* present a large number of species common to Europe and Siberia, subject, however, to the invariable rule, that no species is really native of both continents that does not reach the vicinity of the Arctic Circle, where the vegetation is similar throughout: to the exclusion of course of all trees, and the larger shrubs with three or four exceptions. On the other hand, where the species differ, the genera are the same as those of the North generally, and the paucity of peculiar forms is remarkable. We can only name (besides the three shrubs Diervilla, Nemopanthes, and Rhodora), Dalibarda, and Symplocarpus:—and of other characteristic plants, Aquilegia Canadensis, Corydalis glauca, Viola Canadensis, three Geums, several Potentillas, some species of Rubus, Heracleum lanatum, Cicuta bulbifera, Aralia nudicaulis and hispida, Cornus Canadensis, Arethusa bulbosa, Habenaria orbiculata and grandiflora with other species, Trollius Americanus, Dracæna borealis, 2 Smilacinas, 3 species of Streptopus and Trillium, Panax trifolium, Aster acuminatus and macrophyllus, Cypripedium arietinum, Tofieldia glutinosa, Parnassia Caroliniana, Swertia deflexa, Lilium Canadense, Veratrum viride, the beautiful Polygala paucifolia, several Lycopodiums, Comaropsis fragarioides, Tussilago palmata, and various Saxifrages (*fig.* 1075.).

1075

Saxifrages.

Of *aquatic* plants, there seem to be scarce any peculiar to this region, but several of the more showy species of a warmer clime, wander far into these latitudes.—In a forest-region the *gramineous* plants have but little opportunity to grow in society: the Carices predominate in exposed marshes as in all northern climates, mixed, however, with some species of Glyceria and Calamagrostis, and among all, the white tufts of the Eriophorums become conspicuous. Were we called upon to give a name to this region from the prevalence of some particular tribe of plants, after the elegant method of Schouw, we should find it difficult to make a selection, though the Spruces seem rather more numerous than elsewhere.

2. The Middle District.—Here the forest is characterised by the appearance of numerous Oaks, Hickories, and Ashes, by the Liriodendron, the Liquidambar, two Nyssas, the Platanus occidentalis, the two Walnuts, the Red Birch, Celtis occidentalis, the White Cedar (*Cupressus thuyoides*), and the Red or Virginia Juniper, several Pines, the Tilias, the Black-Sugar and White Maples, the Negundo or Ash-leaved Maple, Ostrya Virginica and Carpinus Americana, the Persimon (*Diospyrus*), and Ilex opaca. The *underwood* consists of the Cornus florida and Cercis Canadensis, so conspicuous in spring, the one for its white, and the other for its purple blossoms; the Button-bush (*Cephalanthus*), Laurus sassafras and Benzoin, Quercus Bannisteri and chinquapin, three Alders, the Wax-myrtle, the Comptonia, the Witch-Hazel (*Hamamelis Virginica*), (*fig.* 1076.), which puts forth its flowers at the very close of the season; numerous species of Vaccinium, Cornus, and Viburnum; the Sambucus Canadensis, the American Hazel, Staphylea trifolia, Zanthoxylum fraxineum, Ceanothus Americanus; Rhus typhina, glabra, copallina and venenata; numerous Cratægi, the Wild Crab (*Malus coronaria*), Aronia arbutifolia, the Itea, several Andromedas, two Azaleas, Hydrangea arborescens; Dirca palustris, our only species of the Thymeleæ; the Kalmias, three species of Euonymus, the Papaw, Clethras, Chionanthus Virginica, and Magnolia glauca. Most of the trees and shrubs mentioned under the last region have disappeared, or are found only on the mountains. The Willows have become much less numerous, both in species and individuals. It is in the northern borders of this region also, in New York, New England, and on the mountains of Pennsylvania, that the autumnal foliage so celebrated for its varied tints, acquires its highest degree of magnificence; where the red Maple, the scarlet Oak, yellow Birch, and the purple Nyssa, are brought into contrast with the dark green of the Pines.—*Climbing* plants now make their appearance, as various Grapes, Ampelopsis hederacea, Rhus radicans, Celastrus scandens, Clematis Virginiana, Menispermum Canadense, the Apios and Amphicarpæa, Dioscorea villosa, Mikania scandens, Gonolobi, and some Phaseoli, Polygonum scandens and cilinode, and especially the different species of Smilax, which form the underwood into tangled thickets.

1076

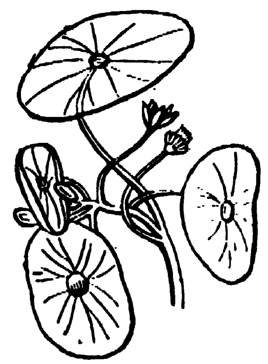
Witch-Hazel.

Herbaceous plants are found in great variety. In the *spring*, Houstonia cærulea, the Podophyllum and Sanguinaria, Diclytra cucullaria, Thalictrum anemonoides, Ranunculus fascicularis, the Dentarias, several Violas, Claytonia Virginiana, Saxifraga Virginiana, Phlox subulata, Erigeron bellidifolium Erythronium, Senecio aureus, come into flower.—These are *succeeded* by the Epigæa, some Helianthemums and Lecheas, the Solea, several Polygalas and Hypericums, Oxalis violacea, Stylosanthes elatior, numerous Desmodiums and Lespedezas, Triosteum perfoliatum, Campanula Americana, the blue Lobelias, various species of Asclepias, three Apocynums, Obolaria Virginica, Polemonium reptans, Pulmonaria Virginica, the Monardas, Cunila Mariana, Collinsonia Canadensis, the Pycnanthemums and several Scutellarias, the Phryma, Hyssopus nepetoides and Scrophulariifolius, the yellow Gerardias, Pentstemon pubescens and lævigatum, Epiphagus Virginiana and two Orobanches, Asarum Canadense, Arum dracontium and triphyllum, Cimicifuga racemosa, two Ascyrums, Baptisia tinctoria, Chimaphila maculata, Sabbatia gracilis and angularis, Aristolochia serpentaria, three Corallorhizas, the Aplectrum, a single Orchis, Spiranthes tortilis, Triphora pendula, Malaxis liliifolia, four Cypripediums, Uvularia perfoliata and sessilifolia, the Gyromia, Smilacina racemosa, Tephrosia Virginiana, a few Umbelliferæ, Helonias erythrosperma, Aletris farinosa, Lilium Philadelphicum, Hypoxis erecta, Tradescantia Virginica, a Sisyrhynchium, Verbena hastata and urticifolia, a single Antirrhinum, the Sarothra, some Œnotheras, Silene stellata, several Eupatoriums and some species of Liatris, Senicio hieracifolius, the varying-leaved Nabali, Lactuca elongata, some species of Cnicus, Cacalia atriplicifolia, three or four Hieraciums, Krigia amplexicaulis and Virginica, Gnaphalium polycephalum and purpureum, some Erigerons, Lysimachia ciliata and quadrifolia, Linum Virginianum, Hypericum punctatum, Anychia dichotoma, Onosmodium hispidum, Leptandra Virginica, Polygonum Virginianum, Corydalis aurea, Crotolaria sagittalis, some species of Phlox, Cuphea viscosissima, the Hydrastis, Buchnera Americana, Aralia racemosa, Polygonella articulata, Spermacoce tenuior, the Mitchella, Comandra umbellata, various Galiums, two Ammanias, Parietaria Pennsylvanica, Kuhni eupatorioides, and an Elephantopus:—and in the low grounds, by the Euchroma coccinea, Decodon verticillatum, Proserpinaca palustris and pectinata, the Saururus, Gratiola aurea and Virginica, Elodea Virginica, Lysimachia hybrida and racemosa, three or four Hypericums, Ludwigia alternifolia, Penthorum sedoides, Lilium superbum, Hibiscus moscheutos, the Scarlet Lobelia, the Flœrkia, Oxycoccus macrocarpa, Asclepias incarnata, Mimulus alatus and ringens, Justicia pedunculosa, Bœhmeria cylindrica and the semi-pellucid Urtica pumila, Pogonia ophioglossoides and the Calopogon, the beautiful tribe of the Habenarias, Helonias? dioica, several Polygonums, the genera Xyris and Eriocaulon, Iris versicolor, some Sparganiums, and Caladium Virginicum.—The *autumn* is ushered in with a profusion of Asters and Solidagos (*fig.* 1077.), more conspicuous, however, in the north-east, the Chrysopsis Mariana, Rudbeckia laciniata and Heliopsis lævis, a few Helianthi, Cassia Marylandica and chamæcrista, Acalypha Virginica, Trichostema dichotoma, Bidens bipinnata:—the low grounds are sometimes all golden, with the flowers of the Bidens chrysanthemoides and trichosperma; or in other places the purple heads of Vernonia Noveboracensis become conspicuous, the Whorled-leaved Eupatoriums and E. perfoliatum, Helenium autumnale, Ambrosia trifida, Chelone glabra, the Purple Gerardias, Polygala cruciata and purpurea, Spiranthes cernua, and, above all, the beautiful blue of Gentiana crinita.

1077

Asters and Solidagos.

1078



Hydropeltis.

Many fine-flowering *aquatics* are found in this region: the Nymphæa odorata and Nuphar advena, the Villarsia, the Hydropeltis (*fig.* 1078.), the Orontium, Pontederia cordata, Heteranthera reniformis, the Schollera, various singular Sagittarias, numerous Utricularias, Hypericum angulosum, Vallisneria Americana, Udora Canadensis, Sparganium fluitans, the Fucoid-like Podostemon, Bidens Beckii, the curious Hottonia inflata, Eriocaulon flavidulum and an undescribed species; and among *gramineous* plants, Eleocharis subterminalis and Juncus militaris, besides the large and beautiful Zizania aquatica. Of other gramineous plants, many interesting Grasses, including some peculiar forms, make their appearance: Carices still prevail in the marshes, though less exclusively than in the north, giving place to Rhynchosporas, Cyperi, the Dulichium, the numerous articulated Junci, and even some Sclerias; but the Eriophorums have mostly disappeared, except E. Virginicum, and are replaced by brown Trichophorums.—The *Ferns*, notwithstanding the minuteness of their seeds, which seems to admit of their transportation by the winds to great distances, are found to be nearly all different from those of the eastern continent: among the more remarkable are, a climber, Lygodium palmatum, reminding us of the Tropics, two Botrychiums and Osmundas, a Struthiopteris, numerous Aspidiums and Aspleniums, four species of Pteris, two Woodwardias, the Onoclea, Adiantum pedatum, and a minute Schizea.

We have mentioned that this district is divided by the Alleghanies into two distinct regions. This happens less from the height of these ridges, acting as a barrier to the migration of plants, than from the peculiar circumstances of soil, in the wide-spread basin of the Ohio. The consequence of the horizontal stratification of the rocks, everywhere of a yielding character, is here seen in the narrow and winding water-courses, flowing with a gentle and uniform current, the height of the waters ever varying, from the frequent rains; lakes, too, being entirely absent, and still water of any description, or even mill-seats, rarely to be met with;—when these circumstances are taken into consideration, the unexpected scarcity of Aquatics seems less surprising. But, on the other hand, notwithstanding the borders of the water-courses in many places are subject to overflow, marshes are singularly rare; to which must be added the almost total absence of Pine-woods, occasioned no doubt by the small proportion of sandy or gravelly soil. Accordingly, on comparing the Flora of the Ohio basin with that of the Atlantic states, in similar latitudes, the absent species are found to consist for the most part either of Aquatics, of Marsh-plants, or of such as are only adapted to an arid soil; while, on the other hand, many plants make their appearance which are unknown east of the mountains. Whether this is to be attributed in any degree to the prevalence of Limestone in the west, we do not possess sufficient data to determine; yet some plants are said to be confined to limestone soil, though, it would seem, far less exclusively than in the case of Saline plants. We will here enumerate some of the most characteristic plants of each region.

In the *western* section, among *trees*, Tilia heterophylla, Æsculus pallida, the Virgilia, the Locust, Gleditschia triacanthos and brachycarpa, the Gymnocladus, the Wild Cherry, Quercus imbricaria and macrocarpa, the Cotton-wood (*Populus Canadensis*), confined to the banks of rivers; Ulmus fulva and the Wild Mulberry (*Morus rubra*), the Pecan-nut Hickory, the Hackberry (*Celtis crassifolia*), Carya sulcata, the Planera, Fraxinus quadrangulata:—among *shrubs*, Hibiscus militaris, Rhus aromatica, Darlingtonia brachyloba and glandulosa, Gillenia stipulacea, Rosa rubifolia, an Adelia, Euonymus obovatus, a Rhamnus, an Amorpha, Celtis tenuifolia, the Hamiltonia, and Hydrangea nivea; it is here, too, that the parasitic Mistletoe (*Viscum flavescens*) most abounds, and its evergreen tufts adhering to the branches of trees, compensate, to a certain degree, for the absence of Pines:—of *climbing* plants, we may name Menispermum Lyoni, Momordica echinata, two Gonolobi and the Enslenia, Vitis riparia and another species, and Aristolochia sipho and tomentosa:—among *herbaceous* plants, the delicate vernal Erigenia, the Stylipus, Collinsia verna, the Jeffersonia, Meconopsis petiolata and diphylla, Dentaria maxima, Hesperis pinnatifida, the Polanisia, Silene regia and rotundifolia, Trifolium reflexum and stoloniferum, Onosmodium molle; various Phacelias, Hydrophyllums and Ellisias; the Nemophila, Dracocephalum? cordatum, the Isanthus, the Synandra; two or three Hedeomas, Scutellarias and Verbenas; Seymeria macrophylla, Gerardia auriculata, Capraria multifida, Pachysandra procumbens, some Delphiniums and Hypericums, Sedum pulchellum and ternatum, Cacalia reniformis and suaveolens, Polymnia Canadensis and Uvedalia, Parthenium integrifolium, Bellis integrifolia, and various other Compositæ; the Frazera, Plantago cordata, Euphorbia dentata and others, Erythronium albidum, two or three Heucheras, Aconitum uncinatum, some species of Phlox, Talinum teretifolium, the Zanthorhiza, Baptisia alba and australis, Paronychia dichotoma, Smilacina? umbellulata, Spermacoce glabra, Gentiana amarelloides, Valeriana pauciflora, and Actinomeris helianthoides:—among *gramineous* plants, Uniola latifolia, the Diarrhena, a Melica, some Carices, &c.:—and, notwithstanding what has been said above of *aquatic* plants, a few make their way throughout this region, but seem to occur more frequently west of the Mississippi, as the Hydropeltis, Nuphar advena, the Podostemon and Schollera, the Pontederia; and we can even name one which seems to be peculiar, the Heteranthera ovalis.

The section *east* of the Alleghanies is characterised by some of the Pines, the White Cedar (*Cupressus thuyoides*), Quercus prinus and coccinea, even the American Chestnut, and perhaps the Red Birch (*Betula nigra*):—among *shrubs*, by the various species of Prinos, some Viburnums, Azalea viscosa, Clethra alnifolia, the Itea, the Kalmias, which might give a name to this region; Andromeda racemosa, Vaccinium dumosum, and, indeed, the whole genus is much more prevalent; the Leiophyllum, Cratægus parvifolia, the Comptonia, Aronia arbutifolia, Quercus Bannisteri, two Alders, and Myrica cerifera:—among *climbing* plants, by Vitis labrusca, æstivalis and cordifolia; and the various species of Smilax are more abundant, and some seem peculiar:—of *herbaceous* plants, by Sarracenia purpurea (*fig.* 1079.)*, Polygala lutea and purpurea, Æschynomene hispida, the three minute Myriophyllums, several Ludwigias, Eryngium Virginianum, Coreopsis rosea, Gratiola aurea, Lysimachia racemosa, two or three species of Xyris and Eriocaulon, the Dilatris and Lophiola, Narthecium Americanum, Xerophyllum asphodeloides, Hudsonia ericoides and some Helianthemums, Arenaria squarrosa, two Ascyrums, several Desmodiums and Lespedezas, the Purple-flowered Thaspium, Krigia Virginica; various Eupatoriums, Asters and Solidagos; Baccharis halimifolia, Gerardia flava, the Schwalbea, Euphorbia ipecachuana, Corallorhiza multiflora and Wisteriana, Pogonia verticillata, Spiranthes cernua, various Habenarias, Caladium Virginicum, some Sparganiums, Bidens chrysanthemoides, Gentiana angustifolia, the purple-flowered Drosera filiformis, and among grasses the subterraneous-flowering Amphicarpon. This region is also remarkable for the absence of the Trifoliums, Sedums, Dodecatheon, and even Delphiniums and Loniceras, and, in common with the whole forest region, perhaps of Chenopodium.—*Aquatic* plants abound throughout, and of those that are peculiar, the Orontium is the most remarkable: but the Delaware presents such striking features with regard to these plants, as to deserve a distinct notice. This great estuary affording free access to the tides, from its funnel form, and being nowhere constricted by rocks, these have moulded its bed more uniformly than in the rival estuaries to the north and south: its borders present most extensive flats, twice a day subject to overflow, while the river water is kept back for upwards of seventy miles; and the same, on a lesser scale, takes place in its various arms. As far as this fresh tide-water extends, these flats are occupied by different aquatics, which we are accustomed to see in less variable waters, the Pontederia, the Orontium, the Nuphar,—above all which arise in great profusion the tremulous panicles of the Zizania. Other situations to the north or south may present similar features, but always on a scale much inferior.

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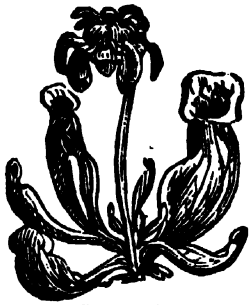
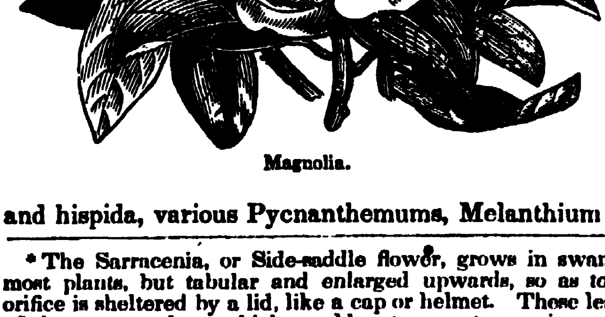


Sarracenia.

We have mentioned that the Alleghany Mountains should form by themselves a distinct section, for they possess many plants which, in general, do not seem to wander far to the east or west. Mountains usually possess a very rich vegetation. Independent of the change of temperature produced by elevation, attracting to them the plants of colder climates, and with such regularity that they may be used as a measure of latitude in ascertaining the range of species;—by being surrounded with a moist atmosphere and presenting a variety of soil and exposure, they attract also the plants of the east and the west; all, except such as are only fitted for arid situations, and even these are not entirely excluded, as many of our broad-topped ridges will testify. It is, however, chiefly towards their southern termination that the Alleghanies seem to afford peculiar species. Here is the proper home of the Magnolias (*fig.* 1080.), Pavia flava, the Tree Andromeda, Pinus pungens, and perhaps of the Catalpa;—and among *shrubs*, of the Calycanthi, Berberis Carolinensis, the Malachodendron, Robinia viscosa and hispida, Philadelphus hirsutus, Rhododendron minus and Catabiense, Azalea calendulacea, three Clethras, Andromeda floribunda, the red-fruited Vacinium (*Oxycoccus? erectus*), Euonymus angustifolius, and Sorbus microcarpa:—among *herbaceous* plants, of Cimicifuga podocarpa and palmata, the Diphylleia, Hudsonia montana, Parnassia asarifolia, Baptisia mollis and villosa, Sedum telephioides and the Diamorpha, Saxifraga erosa and leucanthemifolia, Marshallia latifolia, Coreopsis latifolia, Krigia montana. Cineraria heterophylla, various species of Phlox, Heuchera caulescens and hispida, various Pycnanthemums, Melanthium monoicum, Veratrum parviflorum, Xero-

1080



Magnolia.

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* The Sarracenia, or Side-saddle flower, grows in swampy places; its leaves are not flat, like those of most plants, but tabular and enlarged upwards, so as to resemble a pitcher in shape; the mouth of this orifice is sheltered by a lid, like a cap or helmet. These leaves, notwithstanding the wet places of growth of the parent plant, which would not seem to require any reservoir of moisture to supply its wants, are always more than half filled with water. It has not yet been ascertained what are the properties of this fluid, which render it so inviting to insects; but myriads do enter, and die there; for no sooner has an individual entered the mouth of the tube, than he is apparently urged forwards by the rapidity of the descent, and by the circumstance of the neck of the tube being covered with thickly set hairs, all pointing downwards, so that his struggles to return are effectually prevented by the inverted position of those hairs, and fatigue presently makes him drop into the watery abyss below.

phyllum gramineum, Uvularia puberula, some Trilliums, Clematis cordata, a beautiful Diclytra, and even the Adlumia, Sida? napæa and dioica, Paronychia argyrocoma, Triosteum angustifolium, the Schweinitzia, Houstonia tenella, Collinsonia tuberosa and anisata, the delicate Lindernia monticola, perhaps the Galax, the beautiful Gentiana alba; and among *gramineous* plants, the curious Carex? Frazeri.

3. The Southern District.—In proceeding from the polar regions to the tropic, a gradual increase is observed both in the species and genera. Many of the plants mentioned above are still found throughout this southern region, and though we should have anticipated that the preceding district, being far removed both from the pole and tropic, would present the most peculiar vegetation, most of the North American genera either take their origin or exhibit their greatest developement in the present. Tropical forms now show themselves, the Palms, the Scitamineæ, an Epidendrum and the Tillandsias, Anonaceæ, a Sapindus, an Indigofera and Erythrina, a Chrysobalanus, the Rhexias, Passifloras, a Turnera, the Bumelias, a Symplocos, Bignonias, Crotons and Jatrophas, Amaryllideæ, Rynchosias, an Amyris, Commelineæ, &c.; but leaving these, and proceeding to the more characteristic plants, it is to be observed that this district seems to form two sections like the preceding, but the limits are far less clearly defined. The Maclura, the Celtis integrifolia, and the Nutmeg Hickory, seem to belong to the west; while the tall Palmetto, and the Long-leaved Pine, one of the most picturesque of trees and occupying tracts of vast extent, are only found in the east.

Among other trees more generally distributed through the south, we may mention Pinus serotina and tæda; the deciduous Cypress (*Taxodium distichum*), filling the vast miry swamps with its light-green feathery foliage, and so remarkable for the woody knobs which shoot up from its wide-spread roots; Fraxinus platycarpa and triptera, the Carolina poplar (*P. angulata*), a Tree Myrica; Magnolia grandiflora, the pride of the North American forest; Tilia pubescens, Gordonia lasianthus, Nyssa denticulata, Laurus Carolinensis, Quercus lyrata: the Live Oak, exclusively maritime; the Swamp Hickory (*Carya aquatica*), Gleditschia monosperma, Quercus Catesbæi and aquatica, and Cerasus Caroliniana.—Among *shrubs* and smaller trees, Asiminas, Zanthoxylum tricarpum, Prinos coriaceus, five species of Ilex, Rhamnus minutiflorus and Carolinianus, the minute-leaved Ceanothi, Nyssa tomentosa and candicans, the Wahoo (*Ulmus alata*), Castanea nana and pumila, Hydrangea quercifolia, Aralia spinosa, Viburnum cassinoides, a Cornus, Kalmia hirsuta, a Befaria, a Cyrilla, the Elliottia; several Andromedas and Vacciniums, especially V. arboreum; Symplocos tinctoria, the Halesias and three species of Styrax, Illicium Floridanum and parviflorum, the Mylocaryum, the Pinckneya, several Myricas, Gordonia pubescens, a Callicarpa, Laurus geniculata and various others, several Dwarf Oaks, the Fothergilla, Stillingia sylvatica and ligustrina, the Adelias, several shrub Hypericums, Olea Americana, a Shrubby Solidago (*Chrysoma*), some splendid species of Hibiscus, the Bumelias, a Sapindus and Chrysobalanus, Pavia rubra and macrostachya, a Philadelphus, the Stewartia, Malus angustifolia, three species of Baccharis, Amyris Floridana, and Ptelea trifoliata.

Climbing plants have now become much more numerous, the Berchemia, the Decumaria, the two Bignonias, the Gelsemium, Vitis rotundifolia, various species of Clematis, Convolvuli, two Clitorias, Galactia? pinnata and other more genuine species, numerous species of Smilax, Cocculus Carolinus and the Schizandra, Rynchosias, an Echites, Gonolobus Carolinensis, the Wisteria, Lonicera sempervirens, two Passifloras, the Melothria, Brunnichia cirrhosa, a beautiful Philadelphus, to which we may add the Tillandsia usneoides, the hoary Long Moss, parasitic on trees, and often so entangling their branches as to render the woods impenetrable. Other Tillandsias appear to the south, in Florida, and impart a peculiarly tropical and American aspect to the vegetation.

Among a great variety of *herbaceous* and smaller plants, we may note the magnificent Erythrina herbacea, the Glottidium, Sesbania macrocarpa; the curious Baptisia? perfoliata and microphylla, with others more genuine; two species of Indigo (*Indigofera*), various Tephrosias, Amorpha herbacea, Zornia tetraphylla, Æschynomene? viscidula, the two simple-leaved Lupines, Schrankia uncinata, the Pitcheria, Astragalus glaber and obcordatus, a single Trifolium, &c.;—the showy Cantua coronopifolia, Turnera cistoides, various delicate Polygalas, four Ascyrums and as many Diodias, different Houstonias, some Justicias and Ruellias, Elytraria Carolinensis, four beautiful Pinguiculas, three delicate Polygonellas, Tripterella cærulea and capitata, the Apteria, most of the Rhexias and Ludwigias, some Jussiæas; all but one, of the Sarracenias, the Lepuropetalum, the two Mitreolas, Centaurella verna, the Spigelia, various beautiful Gentianas and Sabbatias, Dichondra Carolinensis, three Hydroleas and two Evolvuli, Solanum Carolinense and hirsutum, several species of Physalis, Asarum arifolium and Virginicum, Iresine celosioides, Eriogonum tomentosum, Drosera brevifolia; the Dionæa (*fig.* 1081.)* and Plcea, both confined to a few spots near the Atlantic, the Stipulicida and various Paronychias, Rubia Brownei and Galium uniflorum, the Polypremum, some Lobelias, a Tiaridium, three Verbenas, Oxalis Lyoni, the singular and delicate Wareas, Oplotheca Floridana, the two Micranthemums, some Helianthemums, Parietaria Floridana, Pentstemon dissectum, various species of Xyris and Eriocaulon, Hypoxis juncea, Aletris aurea; an Amaryllis, Crinum, and four Pancratiums; three or four dwarf Palms; Pogonia divaricata, the parasitic Epidendrum conopseum, Bletia verecunda and aphylla, Cranichis multiflora, Habenaria? quinqueseta; Agave Virginica, Tradescantia rosea and various Commelinas; the Thalia and two Cannas; Caladium sagittifolium; Zigadenus glaberrimus, Nolina Georgiana; Phalangium? croceum, most of the superb tribe of the Yuccas; Iris hexagona, cuprea, and tripetala; two Cacti: of *Umbelliferous* plants, three or four Eryngiums, Hydrocotyle repanda, an Archemora, a Leptocaulis, a Daucus, and the Tiedemannia; among the *Apocyneæ*, the Amsonias, an Anantherix, two or three species of Polyotus, Asclepias amplexicaulis and cinerea, and the Stylandra; among *Labiatæ* plants, three or four Collinsonias and Salvias, the beautiful Gardoquia Hookeri, Calamintha grandiflora, Hyptis radiata, the Ceranthera, and the Macbridea; of the *Scrophularineæ*, Seymeria tenuifolia and pectinata, numerous beautiful Gerardias, the Macranthera or Conradia, different Herpestes, and numerous Gratiolas; of the *Euphorbiaceæ*, various Euphorbias and Crotons, Phyllanthus obovata, Acalypha? Caroliniana, a Jatropha, and several Tragias; and among the *Compositæ*, Prenanthes? aphylla, the Apogon, a Krigia and Borkhausia, the Marshallias, the Stokesia, several Vernonias, the Brickellia, Kuhnia critonia, the Polypteris, the Melananthera, Chrysocoma nudata, Cacalia lanceolata and ovata, a Hymenopappus, Boltonia asteroides and diffusa, Erigeron quercifolium and nudicaule, the Pterocaulon, Conyza bifrons, the Leptopoda, Arnica nudicaulis, Verbesina Virginica and siegesbeckia, the Chaptalia, Galardia bicolor, two species of Actinomeris, the Baldwinias, an Elephantopus, the Tetragonotheca, the Chrysogonum, Helenium quadridentatum, and numerous species of Helianthus, Coreopsis, Rudbeckia, Aster and Solidago, Eupatorium, and especially of the characteristic Liatris.

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* The Dionæa muscipula, for there is only one species (or American Fly-Trap), possesses a most curious apparatus for entrapping insects. The genus is somewhat allied to the Silene or Catchfly, and bears at the extremity of each of its long green leaves, which lie spreading on the ground, a pair of large, thick, fleshy lobes, united together by their base, and fringed at the margins with a row of long and slender spines. One

1081

Dionæa Muscipula.

Aquatic plants abound, and we would mention in the first place the magnificent Nelumbium luteum; and among others, Nuphar sagittifolia, Nectris aquatica, a Syena, a Hydrocharis, Sagittaria natans and lancifolia, Pontederia lanceolata, the Sparganophorus, Lobelia paludosa, some Utricularias, the Lemna-like Fern (*Azolla*), and in the extreme south, the tropical Pistia: to these must be added the Zizania miliacea, a grass of larger growth than even the northern species.—Of other *Gramineous* plants, there are found a profusion of Panicums, also numerous Paspalums, Aristidas, and Andropogons; Rotbollia rugosa and ciliata, Monocera, the Erianthi, and especially the Tripsacum. Carices have nearly disappeared from the marshes, and are succeeded by a vast variety of Rhynchosporas, Cyperi, Sclerias, articulated Junci, by the Dichromas, the Vaginaria, and the Fuirenas. Nor must we omit the Cane (*Miegia macrosperma*), a giant grass, occupying extensive tracts in the forest, "and most abundant on the river alluvions of the south-west, where it attains the height of thirty feet and upwards, and forms impenetrable brakes."

The Prairies.—Having now done with the forest, we come to the examination of a widely different vegetation; we arrive at the vast plains of the interior, where long-continued droughts preclude the existence of trees or shrubs, and the grasses have usurped their domain. These unwooded plains are situated for the most part to the west of the Mississippi, in two instances however intruding far into the forest-region, as has been mentioned above: they extend from the vicinity of the Mexican sea to the Saskatchawan river, in lat. 54°, and in a more broken manner still further north. This prairie-region may be divided into two botanical sections, by the 35th or 36th parallel of latitude;—bearing in mind however that the Rocky Mountains possessing in great part the same unwooded character, by their great elevation bring the northern plants very far to the south.

1. The *northern* parts of these wide-extended plains present a very strong analogy with the Tartarian steppes, not only in their physical aspect and the abundance of salines, but in the profusion of Artemisias and Astragali, in possessing a Thermopsis, a Sophora, a Gly-

might fancy that this plant gave the first idea of our rat-trap, and its mode of operating is very nearly the same. No sooner does a fly alight upon the centre between the two lobes, than these suddenly converge, the spines meet and clasp one within another, and the poor insect suffers imprisonment and death. The same effect is produced by touching these lobes with a pin, a straw, or any small object; but this is chiefly observable in fine warm weather; the contractile power being very weak in winter. Sir J. E. Smith is decidedly of opinion that these decaying carcases are serviceable to the plant by administering a peculiar air to it; and Mr. Knight, a nurseryman, near London, found that a growing specimen of Dionæa, upon whose leaves he laid fine filaments of raw beef, was much more luxuriant in its growth than an individual not so treated.

cirhiza, a Fritillaria, a Polycnemum, a Corispermum, a Diotis and other Chenopodeæ, and to complete the resemblance, even a Centaurea.—The Eriogonums however take the place of the Tartarean Rheums, and other peculiar forms, the Daleas and Petalostemons, the Amorphas, the Brachyris, the Orthocarpus, besides numerous Pentstemons, Psoraleas, Gauras and Œnotheras, give a distinct character to the vegetation: while on the other hand, various Cacti, Loaseæ, Oxybaphi, Actinellas and Grindelias, and a Stevia, show the connection with Mexico and the higher parts of the Andes. Among other plants which seem peculiar to this region we note, a Peritoma, a single Polygala and also but one Viola, a Linum, a Lupinus, a Chrysocoma, a Hymenopappus, two or three Asters and Solidagos, several species of Chrysopsis, a Trichophyllum, three Erigerons, two or three Ivas and Ambrosias, a Collomia, a Pulmonaria, three Lithospermums, a Solanum and an Androcera, Hyssopus anisatus, two or three Castillejas, and unexpectedly two Orobanches; several Plantagos, Yucca angustifolia, Croton capitatum, Euphorbia marginata, two or three Vesicarias, a Hosackia, Paronychia sessiliflora, Lygodesmia juncea, Hedeoma hirta, Rochelia glomerata, the showy Bartonia ornata, some Potentillas and Anemones, a Cheiranthus, Malva coccinea, Rudbeckia columnaris, and Hedysarum boreale, but the Desmodiums and Lespedezas with a single exception have disappeared.—With respect to the *Gramineous* plants, a plan of organization which admits the greatest possible number of individuals within a given space, it is to be remarked that the Junci, the Scirpi, the Carices, even the Cyperi are rare; the true grasses seem to hold undivided sway in these regions: the Eriocoma, Agrostis? brevifolia; Crypsis? squarrosa, "almost exclusively covering thousands of acres;" various Stipas and Aristidas, Sesleria? dactyloides, Poa? airoides, a Bromus; Festuca spicata, also occupying extensive tracts; a Kœleria, Atheropogon oligostachyum, a Hordeum, &c.

2. In the *southern* portion of this unwooded region, the grasses are much more thinly scattered, and towards the Rocky Mountains the vegetation is so scanty that even a desert has been marked out in our maps: but there is no part destitute of rivers at *all* seasons, or where the Cacti and Yuccas may not be occasionally met with, or even some Cucurbitaceæ and Grape-vines spreading over the sands.—In the arid districts of all America, the Cacti, whose fleshy substance forms a reservoir of water, together with perhaps the Agaves, supply the place of the African Mesembryanthemums, Stapelias, Aloes, and Cactiform Euphorbias. The Cactus opuntia extends throughout the Atlantic States as far north as lat. 42°, but in the plains of the Missouri, four species are found at least as far as lat. 48°.—To return to the southern prairies. Most of the genera mentioned above are still to be met with, and in particular some beautiful species of Petalostemon; also in addition, various species of Solanum and Physalis, Streptanthus maculatus and S! Washitana, the Selenia, the Cristatella, an Ionidium, a Krameria, two Mentzelias, a Talinum, an Anantherix and various Polyoti, but the genuine species of Asclepias seem hardly to reach this region; Sabbatia campestris, several Cantuas, an Evolvulus, a Hydrolea, a Rivina, the Chætanthera, an Amaranthus, two or three purple Gerardias, the Euploca and other Borragineæ; Aristolochia reticulata, the Ixia-like Nemostyles, Poterium annuum, three or four Fedias, a Borkhausia: the Euphorbias are numerous, mixed with others of the tribe, a Jatropha, two Tragias, a Maschalanthus, the Lepidanthus and the Aphora; but what particularly distinguishes these southern prairies, is the profusion of Helianthoid Compositæ, the vast variety of Rudbeckias, Helianthi, Silphiums, and species of Coreopsis. Among the latter is the ornamental and now familiar, Coreopsis tinctoria (*fig.* 1082.). The numerous Cruciferæ and Umbelliferæ present an unexpected analogy with the European Flora, but the latter are of peculiar forms, and in general the Mexican character predominates more and more in approaching the south-west; and is seen among other instances, in numerous Mimoseæ, a tropical form so rare in the south-eastern part of the forest-region.—The scarcity of bulbous-rooted plants is a remarkable feature in all the eastern part of North America; they consist chiefly of a few Alliums, and towards the south, of some Amaryllideæ: this might have been anticipated in a moist forest-region, but in the present arid district is the more singular, as it is a structure which seems peculiarly adapted for avoiding long-continued drought.

1082

Coreopsis Tinctoria.

3. *On crossing the Rocky Mountains*, however, where unwooded districts for the most part still prevail, bulbous plants are much more numerous,—as the Calochorti and Cyclobothrias, the Brodiæas, the Tritelcia, and in the north, the Phalangium? kamas. *In the south* the arid unwooded plains are said to extend to the very shores of the gulf of California, but this district is almost entirely unknown to the botanist.

To the north, the prairies are said to occupy the greater portion of the space between the mountains of the coast and the Rocky Mountains on the east; extending to the northward of the Oregon river. Our materials however are still scanty, for giving a satisfactory account of the vegetation.—The Phalangium? kamas covers exclusively extensive tracts, and in more arid situations the Purshia is very abundant: among other characterising forms may be mentioned the Clarkias and Blepharopappi. Three beautiful Bartonias (*fig.* 1083.), the Oenotheras, Trichophyllums and Hymenopappi, Psoraleas, Eriogonums, Pentstemons, Hosackias, a Gaura, and a Petalostemon, show the relation to the prairies of the Missouri; and the same Tartarian features are seen in the abundance of Astragali and Artemisias, and in various Fritillarias. Among other plants hitherto made known, we note, two Lupines, three Sedums, Hymenonema? laciniatum, a Vesicaria, Streptanthus sagittatus, a Peritoma; Viola sarmentosa, Arenaria Franklinii, Malva Munroana, Potentilla gracilis, Eulophus triternatus and ambiguus, Cymopterus glaucus, &c.

1083

Bartonia ornata.

The Western Forest is far less extensive or continuous than the eastern, and is more irregular in form. Towards the south it appears to bifurcate, one strip extending along and including the Rocky mountains, and the other, the mountainous district of the coast. It is to be observed however that even the Rocky mountains are said to be nearly destitute of trees in the extreme south. The species also appear to be less numerous than in the eastern forest, but among them are some of most gigantic dimensions. Like the eastern it may be divided into three regions, seemingly more confused, from the prevalence of mountains throughout, but which could no doubt be defined by tracing the northern limits of particular species.

1. The *Northern* district, approaching, or even being connected with the eastern forest, some of the Canadian spruces appear to extend to the shores of the Pacific: to these may be added the Abies taxifolia, and Thuya gigantea, but at present we are unable to designate other forest trees.—The *undergrowth* is almost as much unknown, but this appears to be the proper home of the numerous species of Ribes, which have recently been discovered; perhaps also of Panax horridum, Rubus spectabilis and others, Xylosteum involucratum, Menziesia ferruginea and Aleutica, Arbutus Menziesii and tomentosa, Vaccinium salicinum, Symphoricarpus occidentalis, various Spiræas, Lonicera? microphylla, and the singular Cladothamnus.—Among *herbaceous* plants, this appears to be the region of the Claytonias, the Romanzowia, &c.; and to these we may add Caltha leptocephala, Delphinium Menziesii and simplex, Coptis asplenifolia, the Achlys, Epimedium hexandrum, several Drabas, Parnassia fimbriata and Kotzebui, Epilobium luteum, Aster peregrinus, the Aphragmus and Oreas, Viola Langsdorfii, Mimulus luteus and guttatus, Lathræa Stelleri, Plantago macrocarpa, a Valerian, three or four Lupines, the Leptarrhena, various Heucheras and Tiarellas, Pyrola pumila and others, numerous Saxifragas, Senecio cymbalaria, different Potentillas: the Gentians and Pediculares are very numerous; and as might have been anticipated, various other plants, which are common to the opposing shores of Asia, or are general inhabitants of all northern climates.

2. The *Middle* district has been more explored, but the results have as yet been only partially communicated.—Among *trees* we have, Pinus Lambertiana, Acer macrophyllum and circinnatum, Quercus agrifolia, and a Cerasus.—Among *shrubs*, besides various Currants and Spiræas; Philadelphus Lewisii, Rosa fraxinifolia, Pyrus rivularis, the three Mahonias, Myginda myrtifolia, Gualtheria shallon, Vaccinium ovatum and obtusum, three Rhamni and as many Ceanothi, Rhus lobata, a Cerasus, Viburnum ellipticum, and Lonicera ciliosa.—Among *herbaceous* plants, the Lupines and Mimuli appear to be peculiarly prevalent; a Pæonia shows a marked analogy to the vegetation of eastern Asia, while Delphiniums and Trifoliums call to mind the European flora;—and indeed, on a western coast, with a similar climate, we should have anticipated a much stronger resemblance. To the above we may add the two Tellimas, several Heucheras and Tiarellas, three Saniculas, Eryngium petiolatum; Cardamine angulata, Macropodium laciniatum, Cheiranthus capitatus, the Platyspermum and Thysanocarpus; Nabalus alatus, Leontodon hirsutum, Cnicus remotiflorus, Eupatorium occidentale, the Pyrrocoma and Adenocaulon; Phlox speciosa, Plectritis congesta and Patrinia ceratophylla, Anemone deltoidea, various Ranunculi, three Violas, Silene Scouleri and Menziesii, Malva rivularis and hederacea, Hypericum Scouleri, Oxalis trilliifolium, Vicia gigantea, several Rubi and Potentillas, Epilobium opacum and minutum, and various Collinsias and Collomias.

This middle region is distinctly divided into two sections. Most of the above plants are confined to the western, while the following appear to have been found hitherto only in the vicinity of the Rocky Mountains: Pinus flexilis, Quercus undulata, and Populus angustifolia:—Aquilegia cœrulea, Sida stellata, Rubus deliciosus, Pectis angustifolia, Swertia fastigiata, a Pulmonaria, Phacelia heterophylla, Teucrium laciniatum, Scutellaria angustifolia, three Castillejas, Erythronium grandiflorum, the beautiful Lewisia, Zigadenus elegans, Xerophyllum tenax, Helonias paniculata, Trillium petiolatum and ovatum, Clematis Douglasii, Geranium cæspitosum and albiflorum, several Potentillas and Saxifragas, Mitella trifida, Cnicus foliosus, Coptis occidentalis, two Nasturtiums, Œnothera heterantha, some species of Ribes; the Petalanthera, Smilacina amplexicaulis, the Wyethia; and three Espeletias, a form which seems to extend throughout the range of the Andes.

3. The *Southern* district, or the maritime part of California, is known chiefly by the discoveries of the lamented Douglas, a small part of which has as yet transpired. This appears to be the region of the Hydrophyllaceæ and perhaps even of the Papaveraceæ. Among the former we have Gilias, the Leptosiphons and Hugelias, the Fenzlia, the Ægochloa, a Phacelia, and three Nemophilas; and among the latter the Platystemon and Platystigma, the Eschscholtzias, two species of Meconopsis, and the curious shrubby coriaceous-leaved Dendromecon. To the above we may add from a defective list, Calandriniæ speciosa, Madia elegans, Stenactis speciosa, Mimulus roseus, Calliprora lutea, Hesperoscordon lacteum, five Lupines, Chelone centranthifolia, the Horkelia, Photinia arbutifolia, Verbena lasiostachys and prostrata, the Abronias, Frankenia grandiflora, Bahia artemisifolia, Echeveria cæspitosa, Sisyrhinchium Californicum, Hesperis Menziesii, Solanum umbelliferum, Ribes tubulosum, Ceanothus thyrsiflorus, Rhamnus Californicus, Velezia latifolia, the Hendecandra, the Garrya and Eriogonum arachnoideum. The Pines appear to be not less numerous than in similar latitudes on the Atlantic, no less than seven species being enumerated by Douglas.

In conclusion, the above geographical division of the North American continent may be summed up in the following manner.

I. The Eastern Forest, divided into three regions:
   1. The region of the *Spruces;*
   2. The region of the *Asters* and *Solidagos*, as indicated by Schouw, and which furthermore consists of three sections.—1. The Province of the Kalmias.—2. The Province of the Gymnocladus and American Virgilia.—3. The Province of the Magnolias;
   3. The region of the *Sarracenias* and *Liatrides.*

II. The Central Unwooded Plains, divided into four regions:
   1. The region of the *Daleas* and *Petalostemums*, or of the *Eriogonums;*
   2. The region of the *Helianthoid Compositæ;*
   3. The region of the *Calochorti;*
   4. The region of the *Bartonias* and *Clarkias.*

III. The Western Forest, divided into three regions
   1. The region of the *Currants* (Ribes) and *Claytonias;*
   2. The region of the *Lupines* and *Mimuli;*
   3. The region of the *Papaveraceæ* and *Hydrophyllaceæ.*

There yet remain two classes of Plants, which it will be most convenient to treat of separately: viz. *Alpine plants*, or such as grow exclusively beyond the limit of trees, either towards the Pole or on mountains; and the *saline plants*, which are found only in soils impregnated with various salts, more usually however with the muriate of soda.

Alpine plants. The only Alpine ground in the United States consists of the summits of the Rocky Mountains, and of a few square miles on the summits of the White Mountains in New Hampshire, and on a few other detached ones in Maine. Here the vegetation is exclusively Arctic, and we are unable to name a single peculiar plant. The vegetation of the Arctic regions has been described in the previous pages of this work, and has been stated to be similar for the most part in both continents. We may remark however that the Arctic regions extend into lower latitudes in eastern America than elsewhere, include more surface, and are besides continued along the elevated coast of Labrador. It would not therefore be surprising if this extended district should be found to contain many peculiar plants.—We have indeed a list of about thirty, which however it would hardly be safe to give in the present imperfect state of our knowledge. In like manner about twenty might be named which have hitherto been found only in the western part of Arctic America. But by far the most interesting Alpine ground in North America is found on the summits of the Rocky Mountains and of the range which skirts the Pacific, extending perhaps from the Polar Sea to the Tropic. This in all probability will, at some future day, yield a rich harvest of interesting plants.—We have seen species of Phlox from the Rocky Mountains, imitating in form the Aretias of Switzerland; and Chrysopses and Eriogonums whose stunted growth and tufted leaves gave sure indication of a genuine Alpine character.—Indeed all these western regions promise a most interesting field to the botanist, and one which will not readily be exhausted.

Saline Plants. The Atlantic coast of North America, from the Arctic regions to lat. 44°, in general presents only such saline plants as are common to all the north, intermixed however with a few, which have not hitherto been found beyond the opposing coast of Europe: but beyond this latitude, and increasing in number as we proceed south, independent too of the *Salicornias, Salsolas* and others of the *Chenopodeæ*, which are more peculiarly saline, there are a number of plants of various genera which do not appear to exist beyond the influence of sea-air. About 70 species have been ascertained, of which we may specify the following as the most remarkable:

Hibiscus Virginicus,
——— scaber,
Prunus maritima,
Œnothera humifusa,
Aster subulatus,
—— sparsiflorus,
Solidago lævigata,
Conyza Marylandica,
Artemisia caudata,
Iva frutescens,
— imbricata,
Asclepias paupercula,
Sabbatia stellaris,
——— chloroides,
Convolvulus obtusilobus,
Gerardia maritima,
Amaranthus pumilus,
Salicornia mucronata,
Salicornia Virginica,
Blitum maritimum,
Rumex pallidus,
Euphorbia polygonifolia,
Ceropegia palustris,
Lycium Carolinianum,
Hudsonia tomentosa,
Crantzia lineata,
Lechea thymifolia;

and of *gramineous* plants, some rooting in moving sands, and others occupying extensive salt-marshes; Scirpus geniculatus and spadiceus, three Junci, Uniola paniculata, Uralepis aristulata, Panicum amarum, Paspalum debile, a Hordeum, and especially four species of Spartina. To the above list might be added others little less exclusively maritime, as the Olea Americana, and unfortunately, the Live Oak.—Along the coast of Florida and the shores of the Mexican Sea, as might have been anticipated, many of the tropical maritime plants make their appearance.

In the eastern forest region, the only interior saline of sufficient importance to afford footing for this class of plants, that has come to our knowledge, is that of Onondaga in the state of New York: here the species do not differ from those of the coast in the same latitude. Most unexpectedly, however, many of these maritime plants make their appearance along the shores of the great lakes of the St. Lawrence; as Pisum maritimum, Potentilla anserina, Salsola Kali, Cakile Americana, &c.

The extensive salines of Missouri and Arkansas appear to afford peculiar species, as Blitum chenopodioides, Polycnemum Americanum, Chenopodium subspicatum, Kochia dioica, Atriplex canescens and argentea, a Salicornia, Achyranthes lanuginosa, Lisianthus? glaucifolius, Croton muricatum, Calamagrostis gigantea, the Lepturus, &c. &c.—The shores of the great Salt Lake of North California, situated between the head waters of the Colorado and Oregon, are entirely unknown.

The northern shores of the Pacific have been found to present the same vegetation as those of the North Atlantic. A few plants, however, seem to be peculiar, or do not reach beyond the opposite coast of Asia.—South of the Oregon to the Tropic, the maritime vegetation has been partly explored, but the results have been very sparingly communicated: we can only name Lupinus littoralis, Trifolium fimbriatum, and Abronia arenaria.

In order, however, to complete this view of North American vegetation, the more elevated parts of the table-land and of the mountains of Mexico should be included: and many of the plants attributed to this region, may belong more properly to the neighbouring districts on the north. A large portion of this table-land is described as destitute of trees; but the woods are so intermixed that a line of separation cannot be drawn, in the present state of our knowledge. This is the region of the Lopezias, Bouvardias, Hoitzias, Stevias and various genera of the Compositæ; twenty-one species of Oak are enumerated; the Salvias are numerous, as well as the Eryngiums, the Valerians, the Eupatoriums, the Gnaphaliums, the species of Baccharis, the Lobelias, the Castillejas, the Buddlejas: in short, the vegetation is so rich and varied, including a large proportion of northern genera, that any detailed account would exceed our limits.

In the present state of our knowledge it would be difficult to make a satisfactory comparison with the vegetation of the other great divisions of the globe. The territory of those great divisions has been too imperfectly explored, and the various forms of plants have not yet been sufficiently examined, compared, or their natural affinities determined, to lead to certain results. We have counted 332 genera of plants which seem to be peculiar to North America, but hitherto are unable to name a single natural family of any considerable extent:—the Podophyllaceæ, Sarraceniaceæ, and Limnantheæ, each very limited in the number of species, are all that can be referred to. The absence of the Heaths (Erica), as well as of any species of Ficus even in the most southern districts, form well-known features.

The writer is sensible of the imperfections of the above sketch; which is given rather for the purpose of inducing the observation of facts. It is a duty we owe posterity, to record all the information we can procure about the introduction of plants, whether from abroad or from different parts of our own country. The question of naturalization, now difficult in many instances, is daily becoming more so, and when cultivation shall be extended a little farther, over the western prairies, we shall lose much evidence that is now available. In old settlements, botanical investigation is not unlike the study of fossil remains; it is only from scattered fragments, requiring the greatest skill in uniting them, that we can reconstruct the original flora. In our own country there is perhaps, as yet, no part where we cannot form an idea of the vegetation as unmodified by human agency.—At the same time the tract of flat land along our coast is peculiarly favourable for determining the limits of plants, which can be done with accuracy to within a degree of latitude.

It remains but to notice such vegetable products as are interesting for economical purposes: and with respect to the Forest trees, even at the present time, we are obliged to resort for materials almost exclusively to the admirable work of Michaux.

The White Oak (*Quercus Alba*) is found in most parts of the United States, but in general too thinly scattered to supply even the local demand. It abounds most in the middle states, and particularly in west Pennsylvania and Virginia. Of all the American Oaks, it affords the best timber for general purposes, and that most frequently used, being strong, durable, and of large size; inferior, indeed, to the English Oak in strength and durability, though more elastic. Its most important use is in ship-building, but it is besides extensively employed in civil architecture, by the wheelwright, &c. This and the following species alone furnish staves proper for containing wine and spirituous liquors, and these are exported in vast quantities, though inferior also for this purpose to the European Oak. White Oak timber is exported chiefly from the northern and middle states; and that from Quebec, is brought chiefly from the shores of Lake Champlain.

The Post Oak (*Q. stellata*) is most abundant in Maryland and Virginia, in dry gravelly soils; also, in the upper parts of the Carolinas and Georgia. It rarely exceeds fifty feet in height, with a diameter of fifteen inches. The wood is used to advantage by wheelwrights and coopers, and even in ship-building. The preference given to the staves from the Chesapeake, is due in a great measure to their being made of this oak.

The Chestnut White Oak (*Q. bicolor*) affords timber superior perhaps to either of the above, but it is everywhere too rarely diffused to be much noticed.

The wood of the Chestnut Oak (*Q. prinus*) is inferior, though still of excellent quality, and used by wheelwrights. The tree is abundant in the Atlantic states, south of lat. 41°.

The Rock Chestnut Oak (*Q. montana*) grows in stony soils, and is most abundant on the Hudson and Lake Champlain, and on the Alleghanies of Pennsylvania and Virginia. The bark is highly esteemed for tanning, and the wood is considered next best to White Oak for ship-building, at New York and other ports on the Hudson, where it is better known than elsewhere.

The Barren Oak (*Q. nigra*) is a small tree, chiefly remarkable for furnishing excellent fuel, which is brought to Philadelphia, and other ports of the middle states.

The Live Oak (*Q. virens*) is found from lat. 37° to Florida, and westward to the mouth of the Sabine river, but never more than 15 or 20 miles from the sea. It attains the height of 40 or 45 feet, with a trunk a foot or two in diameter, but is sometimes much larger. The wood is the finest material we have for ship-building, is much stronger and more durable than the White Oak, and, indeed, is said to be no way inferior to the European species. In consequence of its narrow limits and the more profitable culture of Cotton in the districts where it abounds, its total extinction is considered certain at no distant day. The government, however, has turned its attention to this object, and is making efforts for its preservation.

The Black Oak (*Q. tinctoria*) grows to the height of 80 or 90 feet, with a trunk four or five in diameter. The wood is employed in building, and also for staves, which are, however, too porous to contain spirituous liquors, and are classed as "Red Oak" staves. The bark is extensively used in tanning, but is chiefly remarkable for furnishing the brownish-yellow dye, called *Quercitron*, which has become an important article of export. The manufacture of Quercitron was formerly exclusively confined to Philadelphia, but is now carried on to considerable extent in Baltimore: other species of Oak are also now employed for the same purpose.

The Red, Scarlet, Pin, Spanish, and Willow Oaks, some of which are found in most parts of the United States, furnish wood which is not much esteemed, and in commerce is chiefly employed for staves. Their bark, however, is used for tanning extensively.

The Black Walnut (*Juglans nigra*) grows in most parts of the United States, south of lat. 43°, provided the soil be deep and fertile. It attains the height of 60 or 70 feet, with a trunk three or four in diameter. The wood is excellently adapted for certain uses in naval architecture, and also for cabinet work, as the grain is fine and admits of a beautiful polish. Stocks for muskets are very generally made of it, and it furnishes excellent naves for wheels. The nuts are agreeably flavoured, and are often found in our markets.

The Butternut (*Juglans cinerea*) is rather less in its dimensions than the preceding, and appears to be confined for the most part to the north. The wood in general is not very highly esteemed, but is used for posts and rails, skiffs, coach-panels, wooden shovels and dishes, and similar purposes. The bark possesses purgative qualities. The nuts are also occasionally brought to market, and are preferred by some to the preceding.

The Pekan-nut (*Carya olivæformis*) is exclusively confined to the west, abounding in Missouri, Illinois, and Arkansas. It is chiefly remarkable for the excellence of its fruit, which bears a high price and forms a considerable article of trade.

The Shell-bark Hickory (*Carya alba*) is found in most parts of the United States, and also produces nuts of excellent quality, which are everywhere well known. The wood of the Hickories, of which we have eight species, possesses great weight, strength and tenacity, but decays speedily when exposed to heat and moisture, and consequently is unfit for architectural purposes: it is employed for axletrees, large screws, cogs of mill-wheels, handles of axes and carpenters' tools, whip-handles, &c.; for handspikes it is particularly esteemed, and exported to England. Of the numerous trees east of the Alleghanies, the Hickories alone, at least in the middle states, are perfectly adapted for making hoops, and vast quantities of the young saplings are cut for this purpose. For fuel this wood is superior to any other either in Europe or North America. The Hickories are pretty generally distributed over the United States, and wherever the soil is fertile some of the species are to be found in abundance.

The Sugar Maple (*Acer saccharinum*) abounds chiefly between lat. 46° and 43°, and farther south is common only in Genessee and the northern parts of Pennsylvania, where it sometimes occupies extensive tracts almost exclusively. It is remarkable for the sugar obtained from the sap, which is still manufactured very extensively, and is considered superior to the common brown sugar of the West Indies, and equal to any, when refined. The ashes are very rich in alkali, and furnish four-fifths of the Potash, exported from the north in such vast quantities. In Maine, Vermont, and New Hampshire, the wood is substituted for Oak, and used both in civil and naval architecture. The variety called *Bird's-eye Maple* is highly ornamental, and is extensively employed in cabinet-work, forming, also, an article of export. The Sugar Maple affords excellent fuel, and the charcoal is also highly valued.

The Black Sugar Maple (*Acer nigrum*) strongly resembles the preceding, but for the most part is found in more southern latitudes. It is mixed with the former in Genessee, but abounds chiefly along the great rivers of the west. Like the former, it yields great quantities of sugar, but the wood is little used except for fuel, which is of excellent quality.

The Red Maple (*Acer rubrum*) is common in wet grounds in all parts of the United States. The wood is easily wrought in the lathe, and acquires by polishing a glossy and silken surface. It is used extensively for Windsor chairs, bedsteads, shovels, &c., and especially for the stocks of rifles and fowling-pieces. The variety called *Curled* Maple is peculiarly beautiful.

The White Maple (*Acer eriocarpum*) is very abundant along the banks of the Ohio and its tributaries. The wood is not much used, but furnishes excellent charcoal. Sugar is sometimes made from its sap, but it yields only half as much as the Sugar Maple, though it is whiter and more agreeable. A tree of this species now standing in the vicinity of Conway, New Hampshire, measures twenty-four feet around the trunk, at the height of five feet from the ground.

The Box Elder, or Ash-leaved Maple (*Acer negundo*) (*fig.* 1084.), is very abundant west of the Alleghanies, and the wood is fine-grained, but at present is little used.

The wood of the Magnolias is soft and of little value, though sometimes employed in the interior of houses.

1084

Box Elder.

1085

Tulip Tree.

1086

Sweet Gum.

The Tulip Tree (*Liriodendron*) (*fig.* 1085.), improperly but very commonly called Poplar, is abundant in fertile soils, throughout the middle and western states. It grows to the height of 80 or 100 feet, with a trunk three feet and upwards in diameter. The wood is of excellent quality, and is used for a great variety of purposes, even forming an article of export to the north. In the west it supplies the place of the Pine, and Red and White Cedars.

The wood of the Sweet Gum (*Liquidambar*) (*fig.* 1086.) is very compact, fine-grained and susceptible of a brilliant polish. Though inferior in strength to Oak, it is used for many purposes requiring great toughness and solidity.

The Buttonwood, or Sycamore (*Platanus occidentalis*), one of the largest of our Forest trees, at present, is not much in request for the properties of its wood.

The Mountain Laurel (*Kalmia latifolia*), though merely a shrub, the stem rarely exceeding three inches in diameter, deserves notice from its wood approximating to Box, for which it may be substituted.

The Canoe Birch (*Betula papyracea*) derives its name from the most important of its uses: the outer bark is formed into canoes, remarkable for their lightness, one adapted for four persons weighing only 40 or 50 pounds; and which are sometimes of sufficient size to carry 15 individuals. Canoes of this description were first made by the Indians of the north, and are now used by the Canadians in transporting furs, coasting even the shores of the Great Lakes:—indeed, the fur-trade would be much embarrassed without them, and the bark of no other known tree is fit for this purpose. In the other Birches, the outer bark or cuticle is thin, consisting of a single or but few layers, but in this species the layers are numerous, and may be easily separated and used as a substitute for paper, &c. A section of the trunk exhibits very elegant undulations of the fibre, and is employed for ornamental purposes, but in general the wood is not much used except for fuel, for which purpose it is exported from Maine very extensively, but chiefly to Boston. This tree is found exclusively in the North, hardly existing beyond lat. 43°.

The Black Birch (*Betula lenta*) is found in the eastern states, from lat. 48° to 40°, but farther south, is confined to the summits of the Alleghanies. It grows in deep, loose, and cool soils. The wood is superior to that of the other Birches, possesses considerable strength, and is susceptible of a brilliant polish. In Massachusetts, Connecticut, and New York, it is esteemed next to Cherry by cabinet-makers, acquiring with age the appearance of Mahogany.

The Yellow Birch (*Betula excelsa*) abounds in Nova Scotia, New Brunswick, and Maine, but is rare west of the Hudson. The wood is strong and makes handsome furniture, though inferior to the preceding. It is also employed in ship-building, and the young saplings for hoops; and, besides, it furnishes excellent fuel. The bark is highly esteemed for tanning, but is not employed very extensively.

The Red Birch (*Betula nigra*) is a more southern tree, being found from lat. 41° to Georgia, growing along the banks of rivers. The wood is used for the hoops of rice casks, and is made into bowls, trays, &c.

The Locust (*Robinia pseudacacia*) (*fig.* 1087.) is found native in the valleys of the Alleghanies and throughout the western states, but everywhere mixed with the other trees, not occupying exclusively the soil, even of limited districts. It is now planted about houses in all parts of the Union, as it has a rapid growth, but unfortunately it is very generally liable to injury from the attacks of an insect (Callidium flexuosum). The wood is superior to that of most trees of northern climates. It is much sought for in naval architecture, and is substituted for Box by turners: for trunnels it is used almost exclusively, and is exported to England for this purpose. In durability it exceeds any other, except perhaps the Red Mulberry, and posts made of it, of which there is a vast consumption, will last for forty years.

1087

Locust Tree.

The Honey-Locust, or Black Locust (*Gleditschia triacanthos*), is also found indigenous in the western states. The wood resembles that of the Locust, but is coarser, and extremely hard when perfectly seasoned; yet is little esteemed where most employed, as in some parts of Kentucky. It is sometimes cultivated for hedges, and the long branching thorns sufficiently deter all quadrupeds from approaching it.

The Red Bay (*Laurus Carolinensis*) grows in the southern swamps, beyond lat. 37°, and attains the height of 60 or 70 feet, with the trunk 15 or 20 inches in diameter. The leaves resemble those of the Mediterranean species, and, like them, may be employed in cookery. The wood is of a beautiful rose-colour, is strong, fine-grained, and acquires a brilliant polish. Before the introduction of Mahogany, it was commonly employed in the southern states, and afforded highly beautiful articles of furniture. When of sufficient size, it is employed in ship-building, and exported for the purpose to New York and Philadelphia.

The American Holly (*Ilex opaca*) grows chiefly in barren soils, and is most abundant on the eastern shore of Maryland and in the vicinity of Richmond, Va.; sometimes attaining the height of 40 feet, with a trunk 12 or 15 inches in diameter, but usually it is found much smaller in its dimensions. The wood is fine-grained, compact, and very brilliant when polished, and is used chiefly by turners and cabinet-makers. It is also excellently adapted for pullies, though inferior to Lignum-Vitæ. This tree strongly resembles the European Holly, from which the best bird-lime is manufactured.

The Wild Cherry (*Cerasus Virginiana*) in its wild state appears to be confined almost entirely to the western states, though now planted everywhere. In the west it grows to the height of 80 or 100 feet, with the trunk four or five in diameter. The fruit, which is about the size of a Pea, is bitter to the taste, but withal agreeable, and is used for making a cordial, by infusing it in rum or brandy. The wood is extensively employed in the middle and western states for every species of furniture, and, when taken near a branch, rivals Mahogany in beauty. It is also employed on the Ohio for ship-building, and is sent down the river to New Orleans.

The Persimon (*Diospyrus Virginiana*), of the same Genus as the Ebony, is a middling-sized tree; common in all parts of the United States south of lat. 41°. The fruit, which is as large as a Plum, is very sweet when touched by the frosts, and frequently makes its appearance in our markets. An agreeable beverage is also obtained from it in some districts, by fermentation. The wood is used at Baltimore by turners, for large screws, and by tin-workers, for mallets; and at Philadelphia, for shoe-lasts; but though a common tree, it is usually of inconsiderable dimensions.

The Papaw (*Asamina triloba*) is a small tree, not usually exceeding 20 feet in height, and chiefly remarkable for its fruit, which somewhat resembles a Banana both in shape and flavour. It hardly exists north of lat. 40°.

The Cotton-Wood (*Populus Canadensis*) is one of our largest trees, growing to the height of 80 or 100 feet, with a trunk six feet and upwards in diameter. It appears to be confined to the immediate banks of our great western rivers. The wood, though of better quality than most Poplars, at present is not very much employed.

The Carolina Poplar (*Populus angulata*) strongly resembles the preceding, and is found in similar situations, but in a more southern latitude, hardly extending beyond lat. 39°.

Seven other species of Poplar are found in various parts of the United States.

The Palmetto, or Cabbage Tree (*Chamærops palmetto*), is a Palm, growing along the Atlantic coast, from lat. 35° to the extremity of Florida. It attains the height of 40 or 50 feet; and the wood is preferred in the south for wharfs, as it is secure from the attacks of sea-worms; but it decays speedily when thus exposed alternately to air and water. It has been found eminently proper for the construction of forts, as on the passage of balls it closes without splitting.

The American Chestnut (*Castanea Americana*) is most abundant east of the Alleghanies, as also on these mountains throughout. It is one of our loftiest trees, and the wood is strong and elastic, peculiarly adapted for posts when charred at the base, and is preferred for rails, which are said to last 50 years. It is also used for shingles, and sometimes for staves, which, however, are unfit for containing liquids. It besides affords excellent charcoal, and in some parts of Pennsylvania the woods are cut every 16 years for this purpose. The nuts are smaller and sweeter than those of the European species, and are well known in our markets.

The Chinquapin (*Castanea pumila*), in general only a shrub, produces a nut which is still smaller, but which is sometimes to be found in our markets.

The American Hazel (*Corylus Americana*) is also a shrub, pretty generally diffused over the United States. The nuts, though considered inferior to the European, or Filbert, are more delicate, and are collected extensively.

The Red Beech (*Fagus ferruginea*) is almost exclusively confined to the extreme north-eastern states and the neighbouring parts of Canada, where it is so abundant as often to constitute entire forests. The wood is strong, tough, and compact, and in those districts, where Oak is rare, is employed in ship-building, and for various minor purposes; even forming an article of export to England.

The White Beech (*Fagus Americana*) is more widely distributed, being found in all parts of the United States, and in Genessee and the west forming extensive forests, like the preceding. The wood is inferior to the Red Beech, and the proportion of heart is much less.

The Iron Wood (*Ostrya Virginica*), so called from its weight, rarely exceeds 35 or 40 feet in height, with the trunk 12 inches in diameter. The wood is used in the northern states for levers, and seems well adapted for mill-cogs, mallets, &c.

1088

Dogwood.

The Dogwood (*Cornus florida*) (*fig.* 1088.), is found in all parts of the United States, south of lat. 43°, and is well known from the large white petaloid involucres, which render it so conspicuous in the spring. It does not usually exceed 20 feet in height, but the wood is hard, compact, and excellently adapted for the handles of light tools and similar purposes.

The Sour Gum (*Nyssa villosa*) is found in all parts of the United States, south of lat. 41°, and attains the height of 60 or 70 feet. The wood is preferred for hatters' blocks, and throughout Virginia is used for the naves of coach and wagon-wheels, and farther south, in rice-mills.

The Black Gum, or Tupelo (*Nyssa biflora*) (*fig.* 1089.), strongly resembles the preceding, but grows as far north as lat.

43°, is found only in wet grounds, and rarely exceeds 40 or 45 feet in height; though with a trunk sometimes more than a foot in diameter. The wood is extremely difficult to split, from the fibres being interwoven, which property gives it a decided superiority for certain uses. In New York, New Jersey, and particularly at Philadelphia, it is employed exclusively for the naves of wheels destined to bear heavy burthens. As fuel, Gum logs are esteemed, from their consuming slowly and diffusing a great heat.

1089

Black Gum.

The Large Tupelo (*Nyssa denticulata*) is only found in the swamps of the South, where it attains the height of 70 or 80 feet, with the trunk 15 or 20 inches in diameter. Its presence is considered an infallible proof of the depth and fertility of the soil, and consequent fitness for the culture of Rice. The wood is extremely light, and softer than that of any other tree in the United States.

The American Nettle Tree is so rare that it is never seen employed, though probably it may possess useful properties.

The Hackberry, or Hoop-ash (*Celtis crassifolia*), is peculiar to the Western States, and sometimes attains the height of 80 feet, though with the trunk only 18 or 20 inches in diameter. The wood is light, fine-grained, and compact, but is little esteemed, from its weakness and liability to speedy decay.

The Red Mulberry (*Morus rubra*) is rare in the Atlantic States, but abundant in the west, where it often exceeds 60 or 70 feet in height, with the trunk two feet in diameter. The fruit is deep red, of an agreeable, acidulous, and sugary flavour. The wood is fine-grained, compact, and by many is esteemed fully equal in durability to the Locust: but the tree is less abundant, grows more slowly, and requires a richer soil. It is used in ship-building whenever it can be procured.

The Kentucky Coffee-tree (*Gymnocladus Canadensis*) is confined to the Western States, and is most abundant in Illinois, Kentucky, and Tennessee, where it is considered an index of the richest lands, attaining the height of 50 or 60 feet, with the trunk 12 or 15 inches in diameter. The wood is strong, very compact, fine-grained, and fit for cabinet work and other purposes.

The White Ash (*Fraxinus acuminata*) is most abundant north of lat. 41°, growing to the height of 80 feet, with the trunk three feet in diameter. The wood is highly esteemed for its strength, suppleness, and elasticity, and is employed for a great variety of purposes, as well as exported to England and the West Indies.

We have at least five other species of Ash in different parts of the United States, all resembling the preceding in the qualities of their wood, and indeed often used indifferently.

Of the great variety of Willows in the United States, especially in the north, but two or three attain the dimensions of a tree, and these do not possess any known remarkable property, differing at least from others of the Genus. Several exotic Willows have been planted in various parts of the United States, and are even sometimes cultivated.

The American Elm (*Ulmus Americana*) is found in all parts of the United States, but thrives best between lat. 42° and 46°. The wood is inferior to the European, and its uses are few and unimportant.

The Red, or Slippery Elm (*Ulmus fulva*), is rare in the Atlantic States, but very common in the west. It is inferior in size to the preceding, but the wood is of better quality, and is employed in the construction of houses, and even of vessels: for blocks, it is the best in the United States, and its scarceness in the Atlantic States is the only cause of its limited consumption.

The American Linden, or Bass wood (*Tilia Americana*), is a lofty tree, but the wood is not extensively used in the arts. We have two other species, in the south and west, whose wood possesses similar properties, and is likewise little employed.

The Red Pine (*Pinus resinosa*) is properly a Canadian tree, and is rarely found south of lat. 43°. It often occupies considerable tracts, either alone or mixed with the White Pine, and grows to the height of 70 or 80 feet, having a trunk two feet in diameter, and remarkably uniform in its size. The wood is highly esteemed for strength and durability, and is frequently employed in naval architecture, furnishing planks of 40 feet without knots, and even masts. The planks form a considerable article of export to England.

The Yellow Pine (*Pinus variabilis*) is most abundant in New Jersey, Maryland, and Virginia, where it grows to the height of 50 or 60 feet, with the trunk 15 or 18 inches in diameter for two-thirds of this height. The wood is used in immense quantities, both in civil and naval architecture, and forms an article of export to England and the West Indies.

The Long-leaved Pine (*Pinus palustris*) is perhaps the most valuable tree in North America, as well from the properties of the wood, as from the resinous matter which it yields so abundantly. It is exclusively a southern tree, commencing at Norfolk, in lat. 37°, and occupying, almost without interruption, a tract of the most arid soil, extending along the coast 600 miles in length by 100 in breadth. Its usual height is 60 or 70 feet, with the trunk

15 or 18 inches in diameter, and the extremely long, needle-like leaves, give the tree a peculiarly picturesque appearance. The resinous matter is more uniformly distributed than in the other species, hence the wood is stronger, more compact, and durable. It is preferred to every other species of Pine, even in England, and is put to a great variety of uses both in civil and naval architecture. Vessels indeed are sometimes built entirely of this material; and vast quantities are sent to New York, Philadelphia, and other northern ports, where among other uses it is in request for flooring boards. It is the only species exported from the Southern States to the West Indies, and numerous small vessels are employed in this trade, chiefly from Savannah and Wilmington, North Carolina. The United States are entirely dependent on this tree for the resinous matter so indispensable in ship-building; and which at present is obtained principally from the lower part of North Carolina. Forty thousand barrels were exported to Liverpool alone in 1805, and it is besides sent to France, and makes its appearance at Paris under the name of Boston turpentine. Spirits of turpentine is made by distilling the turpentine in retorts; the residue is rosin. All the tar is made from dead wood, for which reason it is less esteemed in Europe than the Swedish, which is obtained from recently felled trees.

The wood of the Pitch Pine (*Pinus rigida*) in general is not much used, except as fuel, for which purpose it is consumed in vast quantities in the Middle States, by bakers, brickmakers, and now by steam-boats. Lampblack is procured from the most resinous stocks of this tree. It also formerly furnished a certain quantity of tar, and a little is still made in New Jersey and on Lake Champlain; indeed the tar used on the Ohio is chiefly obtained from this tree, at an exorbitant rate, being manufactured on the Alleghanies and on the borders of Tar creek, which enters about twenty miles below Pittsburg.

The Loblolly Pine (*Pinus tæda*) is a southern species, found exclusively south of lat. 38°. In those districts where it abounds, it is commonly employed for architectural purposes, but in general it is to be regarded as one of the least valuable of the Pines.

The White Pine (*Pinus strobus*), on the other hand, is a highly important tree, peculiar to the north, and most abundant between lat. 47° and 43°, south of which it is only found on the mountains. It is our loftiest tree, growing to the height of 160 feet and upwards, with the stem six feet in diameter. The wood is employed in far greater quantities, and for a greater variety of purposes, than any other in North America; yet it possesses little strength, and is liable to swell; it is, however, soft, light, and easily wrought, free from knots, and furnishes timber of large dimensions. One of its most important uses is for the masts of vessels, and in this respect it would be difficult to replace it in the United States. Among the advantages derived by Britain from the possession of Canada, the supply of masts forms by no means the last consideration. The state of Maine furnishes the finest and the greatest quantity of White Pine timber, including three-fourths of all exported from the United States. Next to Maine in the extent of supply, may be ranked the shores of Lake Champlain, from whence it is taken down the St. Lawrence, and by canal, to the Hudson. The head waters of the Delaware and Susquehanna occupy the third rank, and the timber is floated down these rivers in the form of rafts, to the ports on the Delaware and Chesapeake. The head waters of the Alleghany also abound with the White Pine, and from this region is derived the supply of the Ohio valley, and even of New Orleans, which is more than 2,000 miles distant.

A gigantic species of Pine (*Pinus Lambertiana*) has recently been discovered near the Pacific coast, between lat. 43° and 40°, growing to the height of more than 200 feet, with the trunk from 10 to 15 feet in diameter. It is remarkably straight, and destitute of branches till near the top, which forms almost a perfect umbel. The wood is of fine quality, and yields a large portion of resin. Growing trees, that have been partly burned, yield a substance greatly resembling sugar, and indeed substituted for it by the natives. The cones are from 12 to 18 inches long, by 3 in diameter; and the seeds are pounded and baked into a sort of cake, which is considered a luxury. Not less than seven other species of Pine have been likewise discovered by Mr. Douglass in California, but of their history or uses we are as yet uninformed.

The Hemlock Spruce (*Abies Canadensis*) is found within the same limits as the White Pine, and is much more abundant. It is a beautiful tree, and affords a dense shade, growing to the height of 70 or 80 feet, with the stem two or three in diameter. As the White Pine becomes rare, the wood of the Hemlock is substituted, though inferior for most purposes. For laths, however, it is preferred, and forms an article of export. In the Northern States, Hemlock bark is used almost exclusively for tanning, and it is sometimes sent to Philadelphia and Baltimore, to be mixed with Oak.

The Black, or Double Spruce (*Abies nigra*), like the rest of the genus, is peculiar to the north, being extremely abundant between lat. 44° and 53°, growing in black, humid, and deep soils. It attains the height of 70 or 80 feet, with the trunk 15 or 20 inches in diameter. The wood is employed for the same purposes as the White Pine, and is one-fourth cheaper, while the supply is vastly more abundant. It is besides substituted for Oak in ship-building, in the north, and is used almost universally for spars, in the various ports of the Union:

these last are exported to England, and are preferred, but they are not of sufficient size for the yards and topmasts of vessels of war. Spruce beer, an agreeable and salutary drink, is made from the young branches of this tree.

The White, or Single Spruce (*Abies alba*) grows with the preceding, but is inferior in size as well as in the quality of the wood, which, however, is used for the same purposes. The fibres of the roots are very flexible and tough, and are used in Canada for stitching bark canoes.

The American Silver, or Balsam Spruce (*Abies balsamifera*) is a small tree, more frequently planted for ornament than employed for useful purposes. A concrete resinous substance is very abundant about the trunk, and the fresh turpentine has been highly celebrated as a medicine, both at home and abroad, under the false name of Balm of Gilead.

The American Arbor-vitæ (*Thuya occidentalis*) is found in the same region as the Spruces, where it is called White Cedar; and indeed it much resembles in its appearance the Cupressus Thuyoides, or genuine White Cedar. It grows to the height of 50 or 60 feet, with the trunk 10 or 15 inches in diameter, and is now planted for ornament in all parts of the Union. The wood is soft, fine-grained, and is highly esteemed from its durability, but it is difficult to procure stalks of any considerable length with a uniform diameter.

On the Rocky Mountains, and along the coast of the Pacific, a gigantic species of Thuya is met with, growing to the height of more than 200 feet, with the trunk 10 feet and upwards in diameter; but whether the wood can be employed for any important purposes, is not at present ascertained.

The American Larch, or Hackmatack (*Larix microcarpa*) is still found in the same districts as the Spruces, but may be considered rare within the limits of the United States, abounding only in some localities to the north of the St. Lawrence. It attains the height of 80 to 100 feet, with the trunk three feet and upwards in diameter. The wood is exceedingly strong and durable, is highly esteemed, its only fault being its weight, and is employed in our ship-yards whenever it can be procured.

The Bald Cypress (*Taxodium distichum*), on the other hand, is peculiar to the southern swamps, not being found north of lat. 38°. It forms a prominent feature in the vegetation, often exclusively occupying these extensive swamps, and growing to the height of 120 feet, with a diameter of ten or twelve at the base of the trunk; which, however, is usually hollow, and tapers pretty suddenly. The tree is also remarkable for woody protuberances, called knees, which shoot upwards from its wide-spread roots in every direction. The wood is fine-grained, light, very durable, possesses great strength and elasticity, and is very generally used in the south for architectural purposes. It even has a reputation, as eminently proper for the masts and sides of vessels, though at present little employed. Wherever it grows it is chosen for canoes, which may be obtained of the length of 30 feet, by five in breadth. Immense quantities of shingles, of excellent quality, are made from the Cypress, forming an important article of export, alike to the ports of the Middle States, and to the West Indies. This tree is of inestimable value to the Southern States, and particularly to Lower Louisiana, where it is most abundant, occupying extensive tracts, which are annually liable to overflow from the waters of the Mississippi.

The White Cedar (*Cupressus thuyoides*) is found chiefly in the Middle States on the Atlantic, and like the preceding, grows exclusively in swamps. It sometimes attains the height of 70 or 80 feet, with the trunk three feet in diameter. The wood is light, soft, fine-grained, easily wrought, and exceedingly durable. Its superior fitness for various household utensils has given rise to a distinct class of mechanics, called cedar-coopers. It is found to be the best for preserving oils, and also affords beautiful lampblack, while the charcoal is highly esteemed for gunpowder. The boards are superior to White Pine, and are sold at a higher price. Immense quantities of shingles are likewise made from this tree, similar in quality to those of the Cypress, and even preferred in various places.

The Red Cedar (*Juniperus Virginiana*) is found chiefly in the Atlantic States, and south of lat. 44°, growing in exposed, dry situations, thriving also in sandy and barren soils. It does not usually exceed 40 or 45 feet in height, and in many places performs an important part in the succession of forests, being the first tree to appear in cleared lands, attracting moisture about its roots, or rather protecting the soil from rapid evaporation in the sun s rays till other species of trees are enabled to find footing in its shade; these in their turn at length overtop it, when it finally dies out without renewal. The wood is highly esteemed from its durability, and notwithstanding its small size, is very extensively used in ship-building, as also for posts and various other purposes. It is observed to be of better quality, the nearer the sea and the farther south it is obtained. The berries are used to a considerable extent in the manufacture of gin. This valuable tree is now becoming scarce, although we have much soil on which it might be planted to advantage: at the same time, the wood of the Cedrela, imported from the West Indies under the name of Spanish Cedar, is taking its place in our ship-yards.

The Osage Orange, or Bow-wood (*Maclura aurantiaca*), a small thorny tree, with the fruit resembling an Orange, is found in the south-western parts of Arkansas. It is closely related to the Fustic of the West Indies, and the wood possesses the same yellow colour; but all attempts to fix it have hitherto failed. The Maclura has lately been cultivated successfully for hedges, both at home and abroad.

The Bay-berry, or Wax-myrtle (*Myrica cerifera*) is a shrub found in the Northern and Middle Atlantic States, growing chiefly in barren soils. The name is derived from a wax-like substance, of a greenish colour and pleasant odour, which is obtained from the berries, and in some districts very abundantly.

The Catalpa (*Catalpa cordifolia*) is chiefly known as an ornamental tree, though some of the properties of its wood may render it valuable. Though generally found planted, it is said to be wild in the south-western parts of the Alleghanies, and in some other localities.

The Florida Orange, we would mention rather for the purpose of eliciting information. Our earliest records speak of it as abounding throughout East Florida, and it is considered by travellers and the inhabitants, as decidedly indigenous. This is the more remarkable, as the Aurantiaceæ are usually considered exclusively native of the tropical parts of the Eastern Continent.

The Zamia integrifolia, though properly a West Indian plant, also abounds throughout East Florida; and from its roots a substance resembling Arrow-root, and used for the same purposes, is obtained in considerable quantities.

The number of Wild Grapes in the United States is remarkable, the more so, as the cultivated grape does not seem adapted to our climate. Not less than seven species have been ascertained, and more in all probability yet remain. Good table grapes, as the Catawba, Isabella, and Elsinburg, have been obtained by cultivation from the native species, and are now frequently to be met with. Good wine has also been made in some instances, more particularly from the western grapes; and it seems probable that the United States will not always be dependent on Europe for this luxury. It has been asserted that no species is found west of the Rocky Mountains, which would be singular, as we have in that region a European climate, perfectly adapted to the cultivated grape; and as, moreover, neither the cultivated grape nor any other is considered a native of Europe. In China, at the same time, which possesses at least one native grape, and whose climate is similar to our own, the cultivated species was unknown till within a comparatively recent period.

To the westward of the Rocky Mountains are occasionally found considerable tracts, occupied almost exclusively with the Scilla kamas, and commonly called Kamas Prairies. The roots of this plant are extensively employed for food by the Indian tribes, and are sometimes made into bread, which is stated to be of excellent quality.

The seeds of the Wild Rice (*Zizania aquatica*), a tall aquatic grass, also forms an article of food for the Indian tribes, in places where it abounds. Should any large-grained varieties be discovered, it may prove a valuable plant to extensive districts in the north-west, which otherwise it may be difficult to bring under any sort of cultivation.

Among the various *Medicinal* plants of North America, we may mention the Pippsissewa (*Chimaphila umbellata*) as a diuretic.—The Blood-root, or Puccoon (*Sanguinaria Canadensis*), as an emetic, purgative, &c., and which also affords a fine dye of an orange colour. —The Dogwood (*Cornus Florida*), which affords a good substitute for the Peruvian Bark.—Several other species of Cornus, which possess similar qualities.—The Fever-wort (*Triosteum perfoliatum*).—Gillenia trifoliata and stipulacea, from their emetic properties.—Magnolia glauca.—The Tulip tree.—American Senna (*Cassia Marylandica*), an excellent cathartic.—Geranium maculatum, as an astringent.—The Mountain Tea, or Partridge-berry (*Gaultheria procumbens*).—Lobelia inflata, or Indian Tobacco, a powerful emetic, sudorific, and expectorant.—The Winter-berry (*Prinos verticillatus*).—Euphorbia ipecacuanha, which may be substituted for the imported Ipecacuanha.—Sweet Fern (*Comptonia asplenifolia*), much used as a tonic and astringent.—Different species of Erigeron.—The Butterfly-weed (*Asclepias tuberosa*).—The American Centaury (*Sabbatia angularis*), a valuable tonic bitter; and various other Sabbatias and Gentians possessing similar properties.—The May-apple (*Podophyllum peltatum*), whose root is a safe and active cathartic.—The Yellow-root (*Hydrastis Canadensis*)—The Virginia Snake-root (*Aristolochia serpentaria*), extensively employed both at home and abroad.—The Wild Indigo (*Baptisia tinctoria*).—The Sweet Flag (*Acorus calamus*).—Veratrum viride.—The Pink-root (*Spigelia Marylandica*), used extensively as a vermifuge.—The Wild Ginger (*Asarum Canadense*), resembling the Snake-root in its properties, and possessing to a remarkable degree the flavour of Ginger when first tasted, and even substituted for it in some parts of the country.—Illicium Floridanum.—The Spice-wood (*Laurus benzoin*), a fine aromatic shrub.—The Sassafras (*Laurus Sassafras*), also a fine aromatic, which has been at times much celebrated.—The Gold-thread (*Coptis trifolia*), a pure and powerful bitter.—The American Columbo (*Frazera Walteri*), also an excellent bitter.—Seneca-root (*Polygala senega*), possessing various medicinal properties, and used to a very considerable extent.—The Thorough-wort, or Bone-set (*Eupatorium perfoliatum*), a popular medicine, and a powerful tonic and diaphoretic.—The Blackberry (*Rubus villosus*), very commonly used as an astringent.—The Alum-root (*Heuchera Americana*), also an astringent.—The American Ginseng (*Panax quinquefolium*), which, though thinly scattered over a great extent of country, is still collected in vast quantities for export to China.—The Shrub Yellow-root (*Xanthorhiza apiifolia*), a very pure tonic bitter.—The Poke (*Phytolacca decandra*), which is now found in all parts of the United States, but only in waste places; many medicinal properties have been attributed to it, but it is now known chiefly from the young shoots, which are used as a substitute for Asparagus, and from the berries, which are frequently used for making red ink.—The Stramonium (*Datura stramonium*), though not a native, is also common everywhere in waste places: its narcotic properties are well known.

Notwithstanding North America produces such a variety of ornamental shrubs and other plants, much sought for in gardens both at home and abroad, we are unable to name a single plant which has thus far become an important object of cultivation. The Indian corn, tobacco, gourds, &c., found among the Indians at the discovery, were introduced by them from other parts of the continent; and even the grasses so extensively cultivated in the north are exclusively European. Nor is the future prospect very encouraging in this respect, unless it be for the grapes, or should the Florida orange prove an American species. We are, however, by no means deficient in wild fruits, as will appear by the following enumeration.

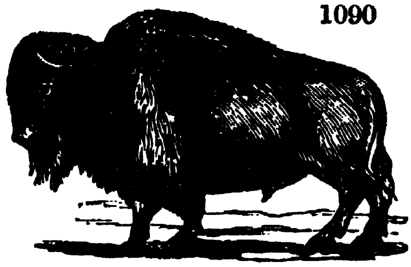
The Black Walnut, Butternut, Pekan, Hickory nut, Persimon, Papaw, Chestnut, Chinquapin, Hazel nut, Red Mulberry, Florida Orange, and Wild Grapes, have been already mentioned; to which we may add, the Wild Crab Apple (*Malus coronaria*); the Chicasa Plum; the American Raspberry (*Rubus strigosus*); Blackberries (*Rubus Occidentalis, villosus, trivialis,* and *cuneifolius*); the Wild Strawberry; Huckleberries, the fruit of various species of Vaccinium; the American Cranberry (*Oxycoccus macrocarpus*), sent from the north in large quantities, and even sometimes cultivated; the Prickly Pear (*Cactus opuntia*), and probably other species in the south and west; the Wild Gooseberry (*Ribes triflorum*), sometimes seen in gardens, and perhaps others of our numerous species may prove of value; the Tree Cranberry (*Viburnum oxycoccus*); the American Elder (*Sambucus Canadensis*), from whose berries a tolerable wine is sometimes procured; the Partridge Berries (*Gaultheria procumbens* and *hispidula*), &c., &c.

Subsect. 3.—*Zoology.*

To our zoological remarks on North America in general, little more need here be added. The native quadrupeds, particularly those of a large size, have been progressively diminishing as cultivation has advanced, and have retreated to the vast plains beyond the back settlements. The different sorts of Squirrels, &c. among the smaller races, still appear in considerable numbers, and at certain seasons furnish game for the amateur sportsmen. Many of the quadrupeds enumerated by Dr. Richardson are either dispersed, or occasionally appear, over the remaining portions of North America, more particularly to the westward. The American Bison, or Buffalo, once common in the United States, has gradually retired before the white population. Moose Deer, in like manner, were formerly found as far south as the Ohio, but these have also disappeared in the more cultivated states. Two species of Bear, the Black and the Grisly, still retain possession of their former haunts, while the Racoon, American Badger, Fisher, Ermine, &c., are among the more common species.

The Bison (*Urus Americanus*) (*fig.* 1090.), or American Buffalo, as it is improperly called, is not now found east of the Mississippi; but on the west of that river, it roams over the great grassy plains from about 35° to 64° N. lat. Here it is found in vast herds, sometimes amounting, it is said, to 10,000 head. It appears to have formerly existed throughout nearly the whole of the present territory of the United States west of the Hudson. The hair of the Bison is of two sorts, one long, the other soft, and placed on the skin at an obtuse angle; while the hair of the ordinary ox is of one kind, hard, and lying close to the hide. The hair of the Bison is very long under the jaw and throat, and upon the shoulders; the tail descends to the houghs, and is provided with abundance of long hair; the summit of the head is covered with a bushy and spreading space of long hairs, strongly impregnated with musk, and the horns are short, lateral, black, and pointed; the hide is very thick, and the shoulders are much elevated; the flesh is tender and juicy, and the tongue and hump, or wig, are, in particular, esteemed great delicacies.

1090



Bison.

The Moose, or American Elk (*Cervus alces*), was long supposed to be one and the same species with the Elk of Sweden, and this idea was entertained both by Cuvier and Major Smith; it appears, however, from very recent investigations, that they are two very different animals. The Moose is of gigantic size, measuring, when full grown, above six feet in height; the fur is long, thick, and very coarse; the antlers are broad and solid, and armed externally with sharp points, which sometimes amount to twenty-eight. It lives in troops in swampy places; its gait is generally a trot, and it is less active than most other deer. The

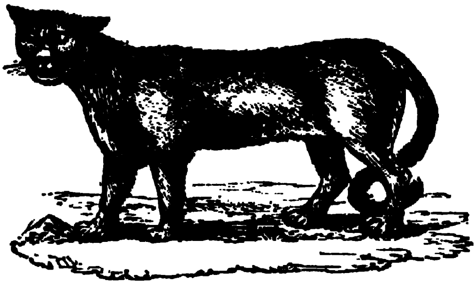
Moose was formerly found as far south as the Ohio, but at present it occurs only in the more northern portions of the United States, and beyond the great lakes.

The Prong-horned Antelope (*Antilope furcifer*) is peculiar to North America; it inhabits the plains of the Missouri and Saskatchawan; its most northern range is in lat. 53°, and according to Lewis and Clarke, it also abounds on the plains of the Columbia to the west of the mountains; in other places it frequents open prairies and low hills interspersed with clumps of wood, but it is not met with in the continuously wooded country. By the singular structure of the horns, which have an anterior branch, and a prolonged posterior point turned down into a hook, there is a similitude, though not an affinity with the deer, which is further evinced by pearly rugosities, showing little incipient additional branches, by a white space on the rump, and a short tail. These animals are exceedingly swift, and live in small families.

The Virginia Deer (*Cervus Virginianus*) forms the most prominent species of the Maramine group, which is composed exclusively of American animals. This elegant species stands rather more than three feet at the shoulder, and lives in large herds over a considerable portion of North America. Dr. Harlan mentions that it displays great enmity towards the rattlesnake, which it contrives to crush, by leaping with the fore-feet conjoined, and dropping perpendicularly on the serpent, bounding away again with great lightness, and repeating this attack till its enemy is dead; the skin is used for gloves, and the Indians prepare them in a superior manner for various articles of dress.

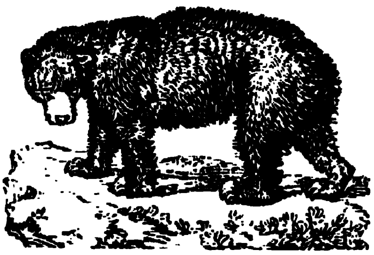
The Cougar, or Puma (*Felis concolor*) (*fig.* 1091.), commonly called, in this country, the Panther, is the largest and most formidable of the Cat kind found in North America. It seems to have been spread over the temperate and warmer regions of both Americas, and is still occasionally killed in the more wild and unsettled districts of the United States. It preys upon sheep, calves, &c., but has also been known to attack man.

1091



Cougar.

1092



American Black Bear.

The Black Bear of America (*Ursus Americanus* Rich.) (*fig.* 1092.) is a different animal from that called by the same name in Europe. It has a milder disposition, and lives more on vegetables; it is the smaller of the American species, seldom exceeding five feet in length; the fur is long, straight, black, and shining, and when the skin was formerly in great request, a "prime" one was worth from twenty to forty guineas, and even more; at present (1830) the demand is small, from their being little used either as muffs or hammer-cloths, so that the best sell for little more than forty shillings. The favourite food of this species are different berries; in the absence of which it preys upon roots, insects, fish, eggs, and such birds or quadrupeds as it can surprise; but it does not, from choice, touch animal food. Timid in its disposition, it will not face a man unless wounded or its retreat is cut off; but in defence of its young it becomes a dangerous assailant. "I have known," observes Dr. Richardson, "the female boldly to confront her enemy, until she had seen her cubs attain the upper branches of a tree, when she made off." When in pursuit, its pace is said not to be quick; but Dr. Richardson has seen a Black Bear make off with a speed that would have baffled the fleetest runner, and ascend a nearly perpendicular cliff with astonishing facility. This species, when resident in the fur countries, almost invariably hibernates, and about 1000 skins are annually procured by the Hudson's Bay Company, from such as are destroyed in their winter quarters. The Black Bear inhabits every wooded district of North America.

1093

Grisly Bear.

The Grisly Bear (*Ursus ferox* Rich.) (*fig.* 1093.), is a much more formidable species than the last, though its fur is less valuable. Its strength and ferocity are so great, that the Indian hunters use the greatest precaution in attacking it. When adult, it is reported to attain a weight exceeding 800 pounds, and one has been killed, measuring nine feet from the nose to the tail. Some idea of its strength may be had, from knowing that it has dragged to a considerable distance the carcase of a buffalo weighing about 1000 lbs. The following story, Dr. Richardson observes, is well authenticated:—"A party of voyagers up the Saskatchawan had seated themselves in the twilight by a fire, and were busy in preparing their supper, when a large Grisly Bear sprang over their canoe that was tilted behind them, and, seizing one of the party by the shoulder, carried him off. The rest fled in terror, with the exception of a man named Bourasso; who, grasping his gun, followed the bear as it was retreating leisurely with its prey. He called to his unfortunate comrade that he was afraid of hitting him if he fired at the bear; but the latter entreated him to do so immediately, without hesitation, as the bear was squeezing him to death. On this he took a deliberate aim, and discharged his piece into the body of the bear, which instantly dropt its prey to pursue him: he escaped with difficulty, and the wounded man finally recovered." The cubs of the Grisly Bear can climb trees; but when the animal is full grown, it cannot do so: the hunter may thus escape; but the infuriated animal will sometimes keep watch below, and thus confine its enemy for many hours. This is a carnivorous species, but occasionally eats vegetables It inhabits the Rocky Mountains and the Eastern Plains; while its southern range is stated to reach Mexico. In 1830 there was a live specimen in the Tower, and two others in the Paris garden.

1094

American Red Fox.

The American, or red Fox (*Vulpes fulvus*) (*fig.* 1094.) bears a close resemblance to the common European Fox; but it has a longer and finer fur, its ears and nose are shorter, and its cheeks rounder. It preys much on the smaller animals of the rat family, but devours all animal food; it hunts chiefly in the night, yet it is frequently seen in the daytime. It runs for about 100 yards with great swiftness, but its strength is exhausted in the first burst, and it is soon overtaken by a wolf or a mounted huntsman. The skins of about 8000 are annually exported from the fur countries. The true European Fox (*Vulpes vulgaris*) is said, by naturalists, to inhabit North America; but Dr. Richardson states it does not exist in the countries north of Canada. It is possibly to this species which Dr. Godman alludes, when he says that reddish foxes are numerous in the middle and southern states, and are everywhere notorious depredators on the poultry-yards.

The Rats and Mice of Europe, originally unknown in the New World, have been brought thither by the early European visiters. The Black Rat seems to have multiplied very fast until the introduction of the Brown Rat (*Mus decumanus*) thinned its numbers; and from this cause it has now become as rare as it is in Europe. The Brown Rat first appeared in America in 1775; it is now common in Lower, but in 1825 it had not advanced much beyond Kingston in Upper Canada. That these, and the Common Mouse, have been so introduced, there can be no doubt; Dr. Richardson found a dead mouse in a storehouse at York factory, filled with packages from England. Neither of these species, however, have yet been discovered in the fur countries.

The American Field Mouse (*Mus leucopus* Rich.) is the natural representative of the European field mouse (*Mus sylvaticus*). No sooner is a fur post established, than this little animal becomes an inmate of the dwelling-houses; whilst the Meadow Mouse (*Arvicola pennsylvanicus*) takes possession of the out-houses and gardens. It has, however, a curious habit not observed in the European. It makes hoards of grain, or little pieces of fat; and what is most singular, these hoards are not formed in the animal's retreats, but generally in a shoe left by the bedside, the pocket of a coat, a nightcap, a bag hung against the wall, or some similar place. "Sometimes," says Dr. Richardson, "we found barley introduced into a drawer, through so small a chink, that it was impossible for the mouse to gain access to its store: the quantity laid up in a night nearly equalling the bulk of a mouse, renders it probable that it was made by the united efforts of several individuals."

Of the carnivorous marsupials, or opossums, there are several species, of which the Common, or Virginia Opossum (*Didelphis Virginiana*) is the best known. In size it is equal to a cat; and it appears to be a nocturnal feeder, and to have much of the habits of the weasels: it frequents barns and farm-buildings, for the purpose of killing the poultry, and sucking the eggs; yet feeds also upon fruits: its smell is fetid, and its motions slow. Its pouch is sufficiently large to contain from fourteen to sixteen young ones; they do not, however, at birth weigh more than a grain each. Although blind, they find the teat by instinct, and adhere to it until they have grown to the size of a mouse.

The Birds of the United States are now rendered as familiar to the European naturalist as are those of his own country, for they have been more ably and more beautifully illustrated than those of any part of the world. The delightful histories of their manners given by Wilson, in the nine volumes of his *American Ornithology*, exceed in eloquence and feeling the happiest efforts of Buffon, while they possess a truth and accuracy, resulting from a personal observation of nature, in which it is well known the great French naturalist was lamentably deficient. The magnificent plates by Audubon, in which every species, however large, is to be represented the size of life, are now in a course of publication; while Swainson's ornithological volume of "Northern Zoology" has made known several new species; and elucidated others, overlooked or confounded by preceding writers. The Prince of Musignano (Charles L. Bonaparte) occupies a prominent rank among those who have illustrated the ornithology of America; and to this scientific writer are we indebted for the following general observations, highly important to our present purpose. The noble author, in a small tract recently published, calculates the number of species found in Europe at 410, while those of North America are estimated at only 390: the territories, however, comprehended under the last-named region do not appear to be distinctly stated. The species that have been detected more particularly in the Roman States, amount to 247, while those of the Philadelphian province are 281: these latter are distributed under the following divisions:—

Stationary during the whole year, 31.
Partially stationary, 13.
Summer visiters, 60.
Winter visiters, 71.
Transitory visiters, 55.
Accidental visiters, 51.

It further appears that although the species in the Roman States are fewer than those of Philadelphia, the former being 247, the latter 281, still it is asserted that the deficiency is largely recompensed by a very great superiority in the number of individuals; a fact, indeed, which the noble writer has had full opportunities to ascertain, but which we should not have credited on any other authority. He further remarks, that Philadelphia is inferior to Rome in the number of stationary species, and of those which come in the breeding season; while Philadelphia, on the other hand, exhibits a much more numerous list of such winter and northern birds as arrive from the arctic regions during intense cold, and are found in the spring and autumn in the more southern provinces.

The Rapacious birds of all countries enjoy the widest range of those inhabiting the land. Hence we find that few species occur in the warmer provinces of America which do not inhabit, either permanently or occasionally the Arctic latitudes. This will be apparent from the following list, which comprises such species of the vulture and falcon family (*Vulturidæ, Falconidæ*) as are spread over the greater part of North America:—

Cathartes Aura.	Turkey Vulture.
Cathartes atratus.	Black Vulture.
Falco sparverius.	Little Rusty-crowned Falcon.
Falco Columbarius.	Pigeon Hawk.
Accipiter Pennsylvanicus.	Slate-coloured Hawk.
Buteo Borealis.	Red-tailed Buzzard.
Stria Virginiana.	American Horned Owl.
Stria Acadica.	Little American Owl.

These, with about five additional species of falcons, complete the list of North American rapacious birds.

Several of the hawks and owls are well known in Europe. The Californian Vulture occurs only beyond the Rocky Mountains; but two others, of a black colour, are common throughout the States. One of these (*Cathartes Aura* Ill.) (*fig.* 1095.) goes by the name of the Turkey Vulture, or Turkey Buzzard; the other is called the Black Vulture. The King of the Vultures (*Cathartes Papa*) belongs more to South America, but appears occasionally in Florida during summer. The largest Eagle is the white-headed species (*A. leucocephala* Sw.); and the Osprey or Fish Hawk differs not from the British race. The White-headed or Bald-headed Eagle (*fig.* 1096.), as is well known, is the chosen emblem of the Anglo-American republic. It is common to both continents, but while it seems almost entirely confined to the Arctic regions of the Old World, it abounds in the milder regions of the United States, in the New. It is notorious for its lawless habits, robbing the Osprey or Fish Hawk of his hard-won victim, and even compelling the Vulture to disgorge his filthy prey. The Great Horned Owl is spread over all the regions between Canada and

1095

Turkey Vulture.

1096

Bald Eagle.

Mexico; but that great northern hunter, the Snowy Owl, seldom wanders, except in severe winters, into the midland states.

To enumerate the many species of summer Birds which annually resort at the breeding season to the United States would far exceed our present limits. Prince Charles Bonaparte calculates the number to be met with in the state of Pennsylvania alone at sixty, not more than two or three of which are known to inhabit Europe. America is celebrated for its singing birds; for, notwithstanding the alleged superiority of those of Europe, we must concede the palm to that country which gives birth to the Mocking-Bird (*Orpheus polyglottos* Sw.). The Wood Thrush, whose notes are so charmingly described by Wilson, represents the European Song Thrush; but the Virginian Nightingale (*fig.* 1097.) is more deserving admiration for its rich scarlet plumage than for any pretensions it may be thought to have to the melody of its namesake. So totally distinct, as species, are the most approximating birds of the Old and the New World, that even the Shrikes and the Wrens, long thought to be the same, are now proved to be different. The summer birds, which partake also of fruits and grains, the Pigeons, Blue-birds, the Red-headed, Carolina, and Golden-shafted Woodpeckers (*fig.* 1098.), find in that season an ample repast of wild berries, the fruits of the orchards, or the corn of the fields.

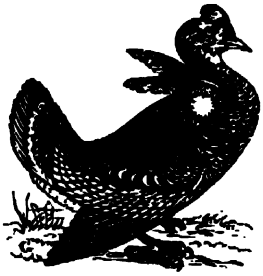
1097

Virginian Nightingale.

1098

Golden-shafted Woodpecker.

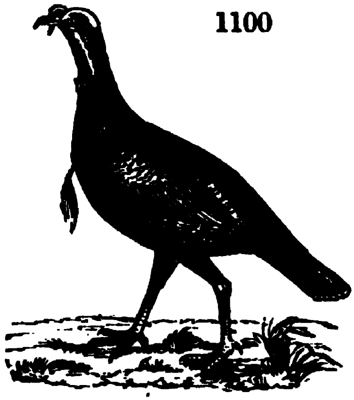
1099



Pinnated Grouse.

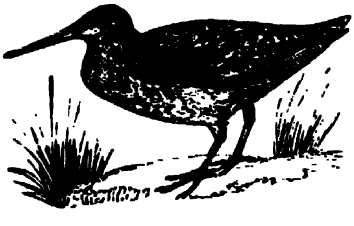
The Gallinaceæ, or birds of game, are remarkably few. Two species of Grouse occur in different parts of the country; one of these is the Tetrao Cupido, or Pinnated Grouse (*fig.* 1099.), so called from two tufts of pointed feathers on the side of the neck, resembling the wings of a little Cupid, and which cover a naked skin, inflated like a ball during the season of courtship. The other is the Tetrao Umbellus or Ruffed Grouse; called in America the Pheasant. It has an extensive northerly range, and was met with by Dr. Richardson. There is a small sized Partridge, called with equal impropriety, a Quail. To compensate, however, for this deficiency of feathered game, America can boast of the Wild Turkey (*fig.* 1100.), a bird so truly valuable, that Dr. Franklin observes, it would have been a much fitter emblem of the country than the White-headed Eagle; "a lazy, cowardly, tyrannical bird, living on the labours of others, and more suited to represent an imperial despotic government, than the republic of America." However this may be, the turkey is entitled to the nobility of the farm yard.

1100



Wild Turkey.

1101



American Woodcock.

Few of the wading birds resemble those of Europe. The American Woodcock (*fig.* 1101.) is as big as the European, but has no bands of black on the under plumage; while the Snipes can hardly be distinguished from those of Europe, except by their tail-feathers. The Golden Plover is the same; but all the rest, with the Curlews, most of the Sandpipers, together with the Coot and Water-hen are not only peculiar to America, but very few of them have been found to the south of the line. The American Flamingo (*fig.* 1102), fully as tall as the European, is of a much more beautiful and intense scarlet; while the Wood Ibis, in form at least, seems to represent the Glossy Ibis so common in the south of Europe. The Herons of Carolina and Florida are numerous, and comprise several large and beautiful species. The magnificent Scarlet Ibis, also, is there not uncommon; yet few of these elegant wading birds extend to the northern part of the United States.

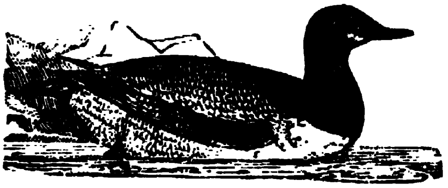
1102

American Flamingo.

Among the Ducks and other swimming tribes, there is a general similarity in the species to those of Arctic America, two or three only being restricted to the warmer shores of the southern regions. The chief of these is the splendid *Dendronessa sponsa* Sw., called the Summer or Tree-Duck of South Carolina. The Canvass-back Duck (*Fuligula Vallisneria* Wil.) (*fig.* 1103.) is chiefly found in temperate America, and is celebrated for the exquisite delicacy of its flesh, which is rich, juicy, tender, and altogether unrivalled by any other of its tribe. The Canvass-back, in its plumage very much resembles the English Pochard (*F. ferina*), but is larger; its principal food is the root of a vallisneria, a grass-like plant, which grows at the bottom of freshwater shoals, at from seven to nine feet deep. In winter these birds sometimes assemble in such numbers as to cover several acres, but they are very shy, and can only be approached by stratagem.

The American Widgeon (*Mareca Americana* L.) (*fig.* 1104.), called also the Bald-pate, is about the size of the European species, but of a handsomer plumage; it does much injury to the rice plantations in the Southern States, and is the constant attendant of the Canvass-back ducks, thieving from these expert divers the fruits of their industry. The Widgeon, who never dives, watches the moment of the Canvass-back's rising, and before he has his eyes well opened, snatches the delicious morsel from his mouth, and makes off. On this account the two species live in perpetual contention. The Bald-pate ducks are said sometimes to perch on trees; they feed in company, guarded by one. Nearly all the rest of the duck tribe occur in the northern regions, which they quit for the United States during severe winters, and return to breed in the spring. America, like Europe, thus presents us with a double migration, and both for the same purposes; namely, to avoid cold, procure sustenance, and to rear their young.

1103



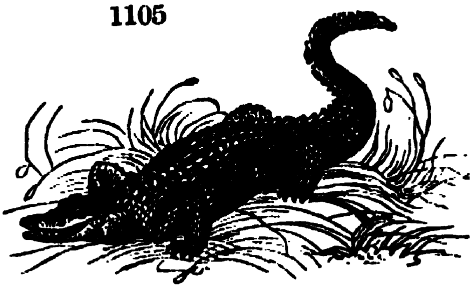
Canvass-back Duck.

1104

American Widgeon.

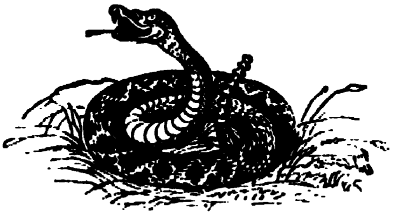
The reptiles offer little that is definite in regard to their distribution. The Alligator (*Crocodilus lucius*) (*fig.* 1105.), does not occur north of the Carolinas and the Red River, and in severe winters he buries himself in the mud, and lies in a torpid state. The Rattlesnakes (*fig.* 1106.) are peculiar to the New World; several species are met with in different parts of the United States, but those of North America are different from those of Brazil. There are several land tortoises, but they are all of a moderate size. Some curious Sala

1105



Alligator.

1106

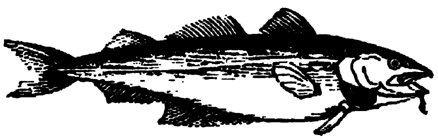


Rattlesnake.

manders have been recently discovered, and the celebrated Siren is an inhabitant of the muddy lakes of Georgia and Carolina; this singular reptile had long perplexed naturalists, some thinking it a tadpole, or imperfect frog; it is now, however, fully ascertained to be an adult animal.

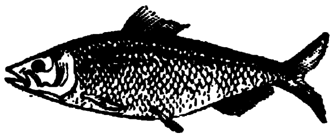
The ichthyology of this great region has been but imperfectly examined, although its seas, lakes, and rivers swarm with a great variety of delicious fish. The Cod (*fig.* 1107.), so well known in commerce, are found only in the northern seas. Their great rendezvous is on the banks of Newfoundland, and other sand-banks that lie off the coasts of the Northern States; these situations they prefer, by reason of the quantity of worms produced in those sandy bottoms, which tempt them to resort there for food. Some conception may be formed of their amazing fecundity, from the fact that nearly 10,000,000 eggs have been counted in a codfish of a moderate size. The Mackarel and Alewife of our coasts also give employment and food to great numbers of persons.

1107



Codfish.

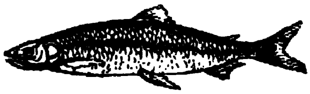
1108



Shad.

Nearly allied to the latter is the Shad (*fig.* 1108.), which is taken in nearly all our rivers in the spring, when it ascends them to spawn in the shallow waters. It is larger than the herring, weighing from five or six to ten or twelve pounds. It is taken in large quantities, and in the season is highly esteemed; but in the autumn, or when caught at sea, it is dry, and of a disagreeable flavour. The Salmon is also taken in the rivers in the spawning season, but it is confined to the colder climates.

1109



White Fish.

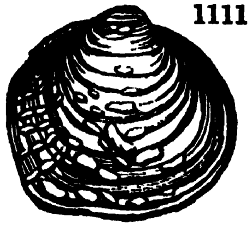
Among the fish of the interior lakes, one of the most esteemed is the White Fish, or Tittameg of the traders (*Coregonus albus*) (*fig.* 1109.). It weighs from three or four to ten or twelve pounds, and seems to be found in all the lakes, from the great Canadian chain to the Arctic seas. It is a delicious article of food, and nearly 900 barrels have been taken at a single place in Lake Superior, in a season. It is taken from April to June, when it is in the best condition, and also in October and November.

1110

Unio complanatus.

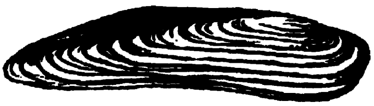
The rivers and lakes abound with a surprising number of Bivalve shells, exhibiting on their internal surface a lustre nearly equal to the oriental pearl counters, and other ornaments made from the pearl oyster; they do not, however, appear to have been turned to any other account than the making of sleeve buttons. The *Unio complanatus* (*fig.* 1110.) of Solander, is usually of a fine purple inside, and several other species have the same character. The great variety of form, the various shades of colour, and the exterior beauty, some being furnished with tubercles, others with folds or rays, have caused them to be eagerly sought after by naturalists of all countries, for their cabinets. The Ohio and its tributaries are particularly rich in possessing a vast number of species, and we are greatly within bounds, when we say that more species have been described from them than from all the rivers of Europe, Asia, and Africa together. The number of different species in the rivers and lakes east of the Alleghany Mountains, bears no comparison with that from the west of them, and the dividing ridge of this great chain seems almost as completely to divide the shells as it does the waters. There are but three or four known species which are common to both waters. This may be considered a remarkable feature in the geographical distribution of animals. Some writers have hazarded the opinion, that they are all mere varieties of one species. A glance at two of the figures, Unio pustulosus (*fig.* 1111.), and Unio Shepardianus (*fig.* 1112.), two shells described by Mr. Lea in the American Philosophical

1111



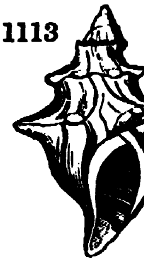
Unio Pustulosus.

1112



Unio Shepardianus.

1113



Io spinosa

Soc. Transactions, ought to satisfy the most inexperienced mind as to the fallacy of that idea. The one is a rotund tuberculated shell, while the other is a very transverse and smooth one.

The shells of the soil, as well as the univalves of the rivers of this country, are also very interesting. The geographical distribution of the land shells is by no means distinctly marked by the dividing ridge of the Alleghanies. Although there are species in the west which are not known to inhabit the east, it is believed that all the eastern species are common to the west. Among the univalve river shells, Mr. Lea has described a very curious one, *Io spinosa* (*fig.* 1113.), which inhabits several rivers emptying themselves into the Tennessee, and which very much resembles a marine shell in its form. It seems to have been the custom of the aborigines to place one of these shells in the grave of the dead; and the present inhabitants, believing these to be "conch shells," and consequently coming from the sea, it was presumed that the ancient race who possessed them, must have come over the ocean. It does not appear that they had been observed in their native element, though living at the very doors of the persons who had remarked them in the tumuli.

The marine shells of the United States are not remarkable for variety or beauty. There are some, however, which are sought after as rare, viz. Fusus decimcostatus, Pecten Magellanicus, Solemya borealis, Lutraria canaliculata, &c. Various species of the oyster exist on the wide extent of the coast, and all of them are very good eating. The consumption of them, particularly in the large cities, is very great, and the trade employs a considerable number of persons and boats. They are carried in the shell as far into the interior as Cincinnati, both from Baltimore and New Orleans. The Common Clam (*Venus Mercenaria*) is very abundant, and is chiefly used for soup, the quality of which is excellent.

Sect. III.—*Historical Geography.*

The discovery of North America closely followed that of the Western Hemisphere in general. It was in 1492 that Columbus first landed in Hispaniola; and the century had not closed, when the two Cabots had explored the whole coast as high as Labrador. The Spaniards, however, were the first who formed a settlement upon it, which was in Florida, in 1513, under Juan de Ponce, and they retained it till 1763, notwithstanding some bloody contests with the natives, and the rival efforts made by the French and English.

It was in Virginia, and under the reign of Elizabeth, that the first effort was made by the English to establish colonies on these shores. Spain had already drawn all the brilliant prizes; but the active reign of Elizabeth, and the romantic enterprise of Sir Walter Raleigh (1584), impelled the English towards Virginia, under which name, conferred by the virgin queen in allusion to her chosen state of life, was for a long time comprehended nearly all the coast now held by the United States. But though Sir Humphry Gilbert and Sir Walter Raleigh made or sent expeditions thither, and the latter actually planted a colony on the Roanoke, yet these earlier attempts proved unsuccessful, and there was no final settlement till the reign of James I., when, according to the custom of the age, two companies were formed, having a different sphere attached to each. To the one, called the London Company, which was composed of several persons of rank and officers of distinction, was granted the country lying between 34° and 41° N. lat.; and to the other, called the Plymouth Company, the country lying between 38° and 45° N. lat. The colonies were to be managed by colonial councils, appointed by and under the direction of a general council at home. The first company accordingly despatched three small vessels, with 105 persons, by whom a settlement was made at a place which they called Jamestown, on the river Powhatan, or James river of the English colonists, on the 13th of May 1607. They were soon involved, as usual, in deadly contest with the natives; Captain Smith, the most efficient leader of the colony, was even taken prisoner and about to be put to death by King Powhatan, when his daughter Pocahontas, with the humanity characteristic of her sex, interceded, and obtained for him life and liberty. The hand of the amiable Pocahontas was afterwards bestowed on a young English officer; and the two nations were placed on an amicable footing. This did not prevent many future contests and vicissitudes; but the colonies were continually augmented by new detachments, particularly of young females to serve as wives to the settlers; and, notwithstanding many instances of misgovernment, their numbers rapidly increased. In 1621, the system of representative government was first established in America, by the new constitution then given to Virginia, providing for a governor and council appointed by the company, and a house of burgesses chosen by the freemen of the colony.

But about that very time the *Pilgrims* were founding their little democracy on the rock of Plymouth. A party of Independents, who had fled to Holland to enjoy that religious liberty which was denied them in England, determined to settle themselves in the New World. By the treachery or a blunder of the master, their frail bark was steered to the inhospitable shores of Cape Cod, where without charter or patent, from king or company, the emigrants organised themselves into a body politic, and having landed at New Plymouth on the 11th of December, 1620, to the number of 101 men, women, and children, established the first colony in New England. A new and more powerful colony was planted at Salem in 1628, and the charter having been transferred to this country in the year following, the constitution of a trading company was thus converted into the constitution of the little republic of Massachusetts, which elected its own governors and made its own laws. Settlements were made in New Hampshire in 1623, at Providence in 1635, on Rhode Island in 1638, in Connecticut in 1636, at New Haven in 1638, and at a much earlier period on the coasts of Maine.

The other states were successively founded on various occasions. Maryland owes its establishment to protestant persecution, after the Puritan party had gained the ascendency. In 1632, Lord Baltimore, one of the leading catholic noblemen, obtained for himself and his followers the grant of an extensive tract, which, after Queen Henrietta Maria, he called Maryland. In 1663, soon after the Restoration, a charter was obtained by Earl Granville and several other English noblemen, for the settlement in a more southern territory, which, after the king, was called Carolina, and its capital Charleston. Locke was even employed to draw up the form of the constitution, which did not, however, succeed very well in practice. Carolina was divided, in 1728, into two governments, called North and South Carolina. In 1664 the English sway was extended over New York, New Jersey, and Delaware, which had been settled by the Dutch in 1614. Some Swedish settlements had been made on the Delaware in 1624; but New Sweden had been incorporated with the New Netherlands in 1655. In 1682, a colony of Quakers was brought over to Pennsylvania by William Penn, a son of Admiral Penn, and a man whose beneficence has obtained for him the veneration of posterity. The wise and humane principles upon which this colony was founded soon rendered it very flourishing. Lastly, Georgia was settled in 1732, by a number of public-spirited individuals, with the view of finding employment for multitudes of the distressed labouring classes. It suffered considerably by dissension until 1752, when it was taken under the immediate care of government, and placed on the same footing with the Carolinas.

These settlements continued to flourish under the English sway. The native Indians were driven to a distance; the charters which had been wrested from the states by Charles II. and James II. were restored; and they advanced rapidly in culture and population. The war of 1756–63 was attended with signal triumphs of the British arms, and its issue added Florida and Canada to the empire, which thus comprised in one united mass all settlements of any value formed by Europeans in North America, with the exception of Mexico. But the pride of Britain, thus raised to its utmost height, was soon destined to experience a severe humiliation.

The American revolution, already prepared by the distance and increasing greatness of these states, arose immediately out of the claim of Britain to impose taxes on them without their own consent. After a series of discussions, Britain refusing wholly to withdraw this claim, the American colonies rose in rebellion, and in 1776 declared themselves free and independent states. In 1777 they agreed to certain Articles of Confederation and Perpetual Union; and being favoured by the extent and local difficulties of the country, and finally aided by France, Spain, and Holland, they, in 1783, wrested from Britain a full acknowledgment of their independence. Since that time these colonies have ranked as an independent power, under the title of the United States of America.

The thirteen colonies which achieved their independence by the seven years' war of the revolution, were situated on the eastern declivity of the Alleghanies, but the settlement of the rich country between the mountains and the Mississippi, formed a wonderful addition to the power and resources of the American confederacy. Kentucky first received a permanent colony in 1775, and in 1792 it was detached from the mother-state, and became an independent member of the Union. Tennessee soon after followed the example of Kentucky, and having been separated from North Carolina, was admitted into the Union in 1796. Meanwhile Vermont, who had long asserted her independence of New York, finally obtained a recognition of her claims in 1791.

The country lying north of the Ohio having received a territorial government by the Ordinance of 1787, began to be settled by a party of emigrants from New England in the following year; and in the course of fourteen years, such was the rapidity of its growth, the new state of Ohio was added (1802) to the confederation. Indiana followed in 1816; Illinois in 1818; and Michigan in 1836; at which time the new Territory of Wisconsin, embracing the country between Lake Michigan and the Missouri, on both sides of the Upper Mississippi, was also constituted.

The western part of Georgia had already been divided into the two Territories of Alabama and Mississippi, which, the former in 1819, and the latter in 1817, became independent states. The cession of Florida to the United States in 1820, gave this part of the country a frontier line on the sea, and facilitated and secured the intercommunication between the different sections of the republic. Maine having been detached from Massachusetts in 1820, the whole country east of the Mississippi is now organised into twenty-three states and two territories.

The vast region beyond the Mississippi drew the attention of the Americans, as soon as their settlements began to press against that river. Here, as the old territory was peopled, an unbounded scope was afforded for fresh emigration and settlements. The purchase of Louisiana in 1804, from Bonaparte, who had taken it from Spain in exchange for a paltry principality in Italy, removed all obstacles to their views. The expeditions of Captains

Lewis and Clarke (1804–6), and that of Major Long, explored this territory as far as the Rocky Mountains, and even to a point on the Pacific, where the Columbia had already been discovered and named by American navigators in 1792; and Spain and Russia acquiesced in the whole being laid down as American. In this extensive tract have been formed the States of Louisiana (1812), already at the period of the cession inhabited by French and Spaniards, Missouri (1820), and Arkansaw (1836). Thus, in the period of 60 years from the declaration of independence, the number of the States has been doubled.

SECT. IV.—*Political Geography.*

The government of the United States, as established by the constitution adopted in 1789, is in form a federal representative democracy. The executive power is vested in the President, who holds his office for the term of four years; he is chosen by the electoral colleges of the several States, consisting in each State of a number of electors equal to the whole number of the senators and representatives of the State in Congress. The electors are themselves appointed in a manner prescribed by the State legislatures, being in some cases chosen directly by the people, and in others elected by the legislatures of the States. A majority of the whole number of votes so given is necessary to constitute a choice; if there be no choice by the electors, then the House of Representatives choose one of the three candidates having the greatest number of votes, and in this case the vote is taken by States, the representation from each State having one vote. The Vice-President is chosen in the same manner and for the same term, but if there be no choice by the electors, the vacancy is supplied by the Senate, by choosing one of the two persons having the highest number of votes. No person can be President or Vice-President, except a natural born citizen of the age of at least thirty-five years, who has been fourteen years a resident within the United States.

The President is commander-in-chief of the army and navy of the United States, and of the militia of the several States when in the service of the United States; with the concurrence of two-thirds of the Senate, he has power to make treaties, and with the consent of that body, he appoints the principal civil and military officers of the United States; he also possesses a qualified veto upon the bills presented to him by Congress; but if he disapprove any bill, it nevertheless becomes a law if passed by a vote of two-thirds in each house. The President receives ambassadors and other public ministers, takes care that the laws be faithfully executed, and commissions all the officers of the United States. The Vice-President is President of the Senate, and in case of the death, resignation, or removal of the President, the powers and duties of that officer devolve on him.

The legislative power is vested in a Congress, consisting of a Senate and a House of Representatives. The Senators are chosen by the legislatures of the several States for the term of six years; there are two senators from each State, and no other qualifications for a seat in the Senate are required, than that a person so chosen shall have attained the age of thirty years, and shall have been nine years a citizen of the United States. The Senate, in addition to its legislative powers, has a concurrent vote in the ratification of treaties and on executive nominations, and the sole power to try all impeachments. The Representatives are chosen for the term of two years by the people of the several States, the electors in each State being those qualified to vote for the most numerous branch of the State legislature. Representatives are apportioned among the States according to their respective population, three-fifths of the slaves in those States where slavery exists being included in the representative number. According to the present apportionment, which is one representative for 47,700 inhabitants, computed as above described, the number of representatives is 242. The House of Representatives choose their speaker and other officers; they have the sole power of impeachment, and all bills for raising revenue must originate in the House. No person who has not attained the age of twenty-five years, and been seven years a citizen of the United States, is eligible as representative.

The Congress must assemble at least once in every year; it has power to lay and collect taxes, duties, imposts, and excises, but no duty can be laid on articles exported; to borrow money on the credit of the United States; to regulate commerce; to coin money and fix the standard of weights and measures; to establish post-offices and post-roads; to punish piracies and felonies committed on the high seas, and offences against the law of nations; to declare war, and grant letters of marque and reprisal; to raise and support armies and a navy; to provide for calling out the militia to execute the laws of the Union, suppress insurrections, and repel invasions; to provide for arming, organizing, and disciplining the militia; and to make all laws necessary to carry into execution the powers vested by the Constitution in the government of the United States.

For despatch of business the Senate is divided into twenty standing committees, chosen by ballot at the commencement of each session, and all other committees in that body are also chosen by ballot. In the House there are twenty-nine standing committees, appointed by the Speaker at the commencement of each session; with the exception of six, which are appointed for the congressional term. The most important of these committees, are the Committee on Foreign Affairs, of Ways and Means, on Commerce, on Manufactures, on Agriculture, on Military Affairs, on Naval Affairs, on the Public Lands, on the Judiciary, on

Post-Offices and Post-Roads, on Indian Affairs, &c. Congress meets on the first Monday of December in each year. The first session often continues for six or eight months, but the second determines on the 4th of March, when the term of office of the Representatives expires.

The Judiciary of the United States consists of a Supreme Court, thirty-three District Courts, and seven Circuit Courts. The judges are appointed during good behaviour. The Supreme Court consists of a Chief Justice and six Associate Justices, who hold a court annually at Washington; each Justice also attends a certain circuit, comprising several districts, and, with the District Judge, composes a Circuit Court, which is held in each district of the circuit. The District Courts are held by the respective District Judges alone. The judicial power extends to all cases in law and equity arising under the Constitution and laws of the United States, and the treaties made under their authority. The Supreme Court has exclusive jurisdiction in all cases affecting public ministers, and in all cases where a State is a party, except between a State and its own citizens, or the citizens of other States or aliens; and appellate jurisdiction from the Circuit Courts, and, in certain cases, from the State Courts. The Circuit Courts have original jurisdiction, concurrent with the State Courts, of all cases in which the United States, or an alien, or citizens of different States are parties, where the matter in dispute exceeds the sum of five hundred dollars; and they have exclusive cognizance of all crimes cognizable by the laws of the United States, where the penalty to be inflicted exceeds a fine of one hundred dollars, or imprisonment for six months. The District Courts have the exclusive cognizance of lesser offences, and also of all civil causes of admiralty and maritime jurisdiction, saving to suitors, however, the right of a common law remedy, where such an one exists; and they have concurrent jurisdiction with the State Courts in certain cases where an alien or the United States are a party. The Circuit Courts have in certain cases appellate jurisdiction from the District Courts. There is a District Attorney in each district, whose duty it is to prosecute, in his district, all offences cognizable under the laws of the United States, and to manage all civil actions in which the United States is concerned. The Marshal of each district attends the District and Circuit Courts of the district, and executes the precepts directed to him under the authority of the United States.

The principal executive officers are the Secretaries of State, at War, and of the Navy, the Postmaster-General, and the Attorney-General. They are removable at the will of the President, and, with the Vice-President, form the cabinet. The department of State was created in 1789. The Secretary conducts the negotiations with foreign powers, and corresponds with the public ministers of the United States abroad, and with those of foreign states near the United States. He has the charge of the United States seal, preserves the originals of laws and treaties, and of the public correspondence growing out of the intercourse between the United States and foreign nations; he grants passports to American citizens visiting foreign countries, has the control of the patent-office, and preserves the evidence of copy-rights. Thus this department corresponds to the Home-Office and the Department of Foreign Affairs of some countries. There are attached to the Department of State a Diplomatic Bureau, a Consular Bureau, a Home Bureau, the Archives, and the Patent Office.

The Treasury Department was created in 1789. The Secretary superintends the fiscal concerns of the government; he is required to report to Congress annually the state of the finances, and recommends such measures as he thinks proper for improving the condition of the revenue. The Treasury Department comprises the offices of the Secretary, two Controllers, five Auditors, the Register, the Treasurer, and the Solicitor of the Treasury.

The revenue and taxation of the United States have been moderate in proportion to the wealth and extent of the republic. Yet their independence commenced under a heavy burden, consequent upon the long and arduous struggle by which it had been achieved. In 1783 the public debt was 42,000,000 dollars, and in 1793 it had increased to 80,352,000 dollars. From that time efficient measures were taken to reduce it, and it was gradually brought down, with some little fluctuation, to 45,000,000 dollars in 1813. The war in which the United States then became involved with England nearly tripled the sum, and in 1816 it amounted to 127,334,933 dollars. Since that period it has been totally extinguished, the whole payments for principal and interest during the last twenty years having been about 212 million dollars. Thus has this young republic, without imposing heavy burdens upon the people, or neglecting the great interests of industry and social improvement, redeemed the entire debt of the revolution and the three years' war; paid the purchase-money for Louisiana and Florida, and provided for the wants of those who perilled their life and fortune in the sacred struggle for independence. "When it is considered," says the Secretary of the Treasury, "that this has been effected by a young, and, at first, not very numerous people, within about half a century, and who, during the same period, have provided such other and ample means to sustain their useful systems of government, and to build up great and prosperous communities, we may well be proud of the illustration our country affords of the financial abilities of free institutions.."

The revenue of the United States is derived chiefly from Customs and the sale of Public Lands. Internal taxes or excise duties had been imposed prior to 1802, but they were repealed in that year; they were revived in 1813, but discontinued again at the close of the war. Direct taxes, apportioned among the States according to their representative population, have been assessed at four different periods; viz. in 1798, a direct tax of 2,000,000 dollars on dwelling-houses, lands, and slaves; in 1813, a similar tax of 3,000,000 dollars was imposed; in 1815, a third of 6,000,000, and in 1816, a fourth of 3,000,000.

The customs or duties on imports and tonnage, are the most productive branch of revenue, but they must of course vary in amount not only in proportion to the whole value of the imports, but also according to the greater or less rate of the duties. In 1816, the receipts from the customs amounted to 36,306,874 dollars; from that period till 1825, they fluctuated between 13,000,000 and 20,000,000 dollars; and from 1825 to 1834, they varied from 20,000,000 to 30,000,000; but since the general reduction of duties by the tariffs of 1832 and 1833, they have fallen to about half the last named sum.

The second great source of revenue is the Public Domain of the United States. The Public Lands consist of tracts of territory ceded to the General Government by the several States; of the lands in the territory of Louisiana purchased of France; and of those in Florida obtained by purchase from Spain. After thus acquiring a claim to wild lands from the individual States, or foreign powers, the Indian title to the soil is next extinguished, by purchasing it from the native tribes by whom it is respectively occupied. The lands are then surveyed on an accurate plan and according to a general system; the surveys are founded upon a series of true meridians, each forming the base of a series of surveys of which the lines are made to correspond, so that the whole country is divided into townships of six miles square. Each township is subdivided into thirty-six equal parts, called sections, containing each 640 acres, and these are farther subdivided into quarter, half-quarter, and quarter-quarter sections. The lands thus surveyed are offered for sale by proclamation of the President, and, by law, must be sold by public auction, the minimum or upset price being one dollar and twenty-five cents an acre, ready money. One section in each township is reserved for the support of schools in the township, and all salt springs and lead mines are reserved from sale, unless by special order of the President. The minimum or upset price of the public lands was at first fixed at two dollars per acre, one half to be paid within thirty days, the residue in one year after the sale; in 1800, the term of credit was very much extended, and in 1820 the purchasers were in debt to the government more than 22,000,000 dollars. At that period the present system of cash payments was adopted, under which the annual proceeds of the sales have increased from 1,167,225 dollars to 6,099,981 (in 1834), and in 1835 even exceeded 12,000,000. The increase of population in the Western States, the extensive introduction of steam vessels on the rivers and lakes, and the increased facilities of intercourse and transportation by rail roads and canals, have concurred with the extraordinary high price of cotton in producing this wonderful result. The whole quantity of public lands sold is 44,500,000 acres; quantity granted for various purposes, 16,040,624 acres; unsold, within the limits of the States and Territories, at the end of 1835, 220,000,000 acres; beyond those limits, 750,000,000; whole quantity surveyed, 122,300,000: total cost of the lands, 58,438,824 dollars; total receipts, 64,029,496 dollars.

1. *Cost of Purchase and Management of the Public Lands to end of* 1835.

Expenditure for Indian Affairs	$ 17,541,560
Purchase of Louisiana (with interest)	23,529,353
Purchase of Florida (with interest)	6,489,769
Payments to Georgia	1,250,000
Mississippi Stock redeemed at Treasury	1,832,375
Expenses of Land Offices	3,367,951
Surveying	3,641,199
Five per cent. on sales to the new States for public roads	786,617
Total	$ 58,438,824

2. *Quantity of Land surveyed and offered for sale; quantity sold; amount paid by Purchasers; and amount paid into the Treasury, to end of* 1835.

States and Territories.	Surveyed and offered for sale.—Acres.	Sold.—Acres.	Amount paid by Purchasers.	Amount paid into Treasury.
Ohio	14,703,163	10,602.671	$ 19,489,032	$ 16,780,177
Indiana	18,690.447	8,390,839	10,810,172	9,510,482
Illinois	21,574,495	4,340,481	5,505,487	5,355,612
Missouri	20,392,250	2,948,819	4,205,309	3,886,224
Alabama	29,915.088	7,329,030	13,017,115	10,097,348
Mississippi	17,525,820	5,601,517	7,822,987	6,837,770
Louisiana	6,450,942	767,415	1,162,591	999,087
Michigan (peninsula)	12,211,519	3,207,822	4,072,394	3,810,509
Michigan (West of Lake)	4,674,691	149,755	215,189	149,388
Arkansas	13,891,538	668,362	861,816	636,642
Florida	6,867,130	492,909	657,092	556,283
Totals	166,897,083	44,499,621	$ 67,820,085	$ 58,619,523*

* In addition to 5,409,974 dollars in certificates of public debt, Mississippi and United States stock, &c.

The revenue from all sources during the year 1834, was,

From Customs	$ 16,214,957
" Lands	4,857,601
" Dividends on Bank Stocks	234,349
" Sales of Bank Stocks	352,300
" Incidental Items	132,728
Total	$ 21,791,935

These, with the balance in the Treasury at the beginning of the year, amounting to 11,702,905 dollars, made a total of 33,494,841 dollars. The expenditure during 1834, was 24,601,982 dollars:—

Viz. Civil list, foreign intercourse, and miscellaneous	$ 4,404,729
Military service, including fortifications, ordnance, Indian affairs, pensions, arming militia, and internal improvement	10,064,428
Naval service, including gradual improvement of the Navy	3,956,260
Public Debt	6,176,565
Leaving a balance in the Treasury, January 1st 1835, of	$ 8,892,858
The estimated revenue for 1835 was	28,430,881
Making, with the above balance, a total of	$ 37,323,739
Estimated expenditure of that year	19,276,111
Leaving a balance (January 1, 1836) of	$ 18,047,598

The following statement exhibits some of the principal items of annual expenditure.—The sums are for the year 1833.

1. Civil		$ 1,562,758
Principal Items.		
Legislature	$ 469,074	
Executive Departments	658,608	
Judiciary	338,758	
2. Miscellaneous		$ 3,198,092
Principal Items.		
Light Houses	$ 313,930	
Building Custom Houses and Warehouses	250,415	
Duties Refunded	701,760	
Roads	98,202	
Surveys	136,000	
Survey of Coast	18,313	
Claims of Virginia	289,576	
3. Foreign Intercourse		$ 955,396
4. Military Establishment		$ 13,096,152
Principal Items.		
Army	$ 2,435,403	
Revolutionary Pensions	3,507,484	
Armories and Arsenals	530,951	
Fortifications	961,480	
Breakwaters, Piers, &c.	435,761	
Improving Rivers, &c.	240,000	
Military Academy	117,166	
Roads	655,486	
Indian Affairs	1,912,981	
5. Naval Establishment		$ 3,901,356
6. Public Debt		1,543,543

A Statement of the Receipts of the United States, from the 4th of March, 1789, *to the* 31*st December*, 1832.

Years.	Customs.	Internal Revenue.	Direct Taxes.	Postage.	Public Lands.	Loans & Treasury Notes, &c.	Dividend and sales of Bank Stock and Bonus.	Miscellaneous.	Total.
1791	4,399,437 09	- - - -	- - -	- - -	- - -	5,791,112 56	- - -	19,440 10	10,210,025 75
1792	3,443,070 85	208,942 81	- - -	- - -	- - -	5,070,806 46	8,028 00	9,918 65	8,740,766 77
1793	4,255,306 56	337,705 70	- - -	11,020 51	- - -	1,067,701 14	38,500 00	10,390 37	5,720,624 28
1794	4,801,064 28	274,089 62	- - -	29,478 49	- - -	4,609,196 78	303,472 00	23,799 48	10,041,101 65
1795	5,588,461 26	337,755 36	- - -	22,400 00	- - -	3,305,268 20	160,000 00	5,917 97	9,419,802 79
1796	6,567,987 94	475,289 60	- - -	72,909 84	4,836 13	362,800 00	1,240,000 00	16,506 14	8,740,329 65
1797	7,549,649 65	575,491 45	- - -	64,500 00	83,540 60	70,135 41	385,220 00	30,379 29	8,758,916 40
1798	7,106,061 93	644,357 95	- - -	39,500 00	11,963 11	308,574 27	79,920 00	18,692 81	8,209,070 07
1799	6,610,449 31	779,136 44	- - -	41,000 00	- - -	5,074,646 53	71,040 00	45,187 56	12,621,459 84
1800	9,080,932 73	809,396 53	734,223 97	78,000 00	443 75	1,602,435 04	71,040 00	74,712 10	12,451,184 14
1801	10,750,778 93	1,048,033 43	534,343 38	79,500 00	167,726 06	10,125 00	88,800 00	266,149 15	12,945,455 95
1802	12,438,235 74	621,898 89	206,565 44	35,000 00	188,628 02	5,597 36	1,327,570 00	177,905 86	15,001,391 31
1803	10,497,417 61	215,179 69	71,879 20	16,427 26	165,675 69	- - -	- - -	115,518 18	11,064,097 63
1804	11,098,565 33	50,941 29	50,198 44	26,500 00	487,526 79	9,532 64	- - -	112,575 53	11,835,840 02
1805	12,936,487 04	21,747 15	21,883 91	21,342 50	540,193 80	128,814 94	- - -	19,039 80	13,689,508 14
1806	14,667,698 17	20,101 45	55,763 86	41,117 67	765,245 73	48,897 71	- - -	10,004 19	15,608,828 78
1807	15,845,521 61	13,051 40	34,732 56	3,614 73	466,163 27	- - -	- - -	34,935 69	16,398,019 26
1808	16,363,550 58	8,210 73	19,159 21	- - -	647,939 06	1,822 16	- - -	21,802 35	17,062,544 09
1809	7,296,020 58	4,044 39	7,517 31	- - -	442,252 33	- - -	- - -	23,638 51	7,773,473 12
1810	8,583,309 31	7,430 63	12,448 68	- - -	696,548 82	2,759,992 25	- - -	84,476 84	12,144,206 53
1811	13,313,222 73	2,295 95	7,666 66	37 70	1,040,237 53	8,309 05	- - -	60,068 52	14,431,838 14
1812	8,958,777 53	4,903 06	859 22	85,039 70	710,427 78	12,837,900 00	- - -	41,125 47	22,639,032 76
1813	13,224,623 25	4,755 04	3,805 52	35,000 00	835,655 14	26,184,435 00	- - -	236,571 00	40,524,844 95
1814	5,998,772 08	1,662,984 82	2,219,497 36	45,000 00	1,135,971 09	23,377,911 79	- - -	119,399 81	34,559,536 95
1815	7,282,942 22	4,678,059 07	2,162,673 41	135,000 10	1,287,959 28	35,264,320 78	- - -	150,282 74	50,961,237 60
1816	36,306,874 88	5,124,708 31	4,253,635 09	149,787 74	1,717,985 03	9,494,436 16	- - -	123,994 61	57,171,421 82
1817	26,283,348 49	2,678,100 77	1,834,187 04	29,371 91	1,991,226 06	734,542 59	202,426 30	80,389 17	33,833,592 33
1818	17,176,385 00	955,270 20	264,333 36	20,070 00	2,606,564 77	8,765 62	525,000 00	57,547 71	21,593,936 66
1819	20,283,608 76	229,593 63	83,650 78	71 32	3,274,422 78	2,291 00	675,000 00	57,027 10	24,605,665 37
1820	15,005,612 15	106,260 53	31,586 82	6,465 95	1,635,871 61	3,040,824 13	1,000,000 00	54,872 49	20,881,493 68
1821	13,004,447 15	69,027 63	29,349 05	516 91	1,212,966 46	5,000,324 00	105,000 00	152,072 52	19,573,703 72
1822	17,589,761 94	67,665 71	20,961 56	602 04	1,803,581 54	- - -	297,500 00	452,355 15	20,232,427 94
1823	19,088,433 44	34,242 17	10,337 71	110 69	916,523 10	- - -	350,000 00	141,019 15	20,540,666 26
1824	17,878,325 71	34,663 37	6,201 96	- - -	984,418 15	5,000,000 00	350,000 00	127,603 60	24,381,212 79
1825	20,098,713 45	25,771 35	2,330 85	469 56	1,216,090 56	5,000,000 00	367,500 00	129,982 25	26,840,858 02
1826	23,341,331 77	21,589 93	6,638 76	300 14	1,393,785 09	- - -	402,500 00	94,288 52	25,260,434 21
1827	19,712,283 29	19,885 68	2,626 90	101 00	1,495,845 26	- - -	420,000 00	1,315,621 83	22,966,363 96
1828	23,205,523 64	17,451 54	2,218 81	20 15	1,018,308 75	- - -	455,000 00	65,106 34	24,763,629 23
1829	22,681,965 91	14,502 74	11,335 05	86 60	1,517,175 13	- - -	490,000 00	112,561 95	24,827,627 38
1830	21,922,391 39	12,160 62	16,980 59	55 13	2,329,356 14	- - -	490,000 00	73,172 64	24,844,116 51
1831	24,224,441 77	6,933 51	10,506 01	561 02	3,210,815 48	- - -	490,000 00	583,563 03	28,526,820 82
1832	28,465,237 24	11,630 65	6,791 13	244 95	2,623,381 03	- - -	659,000 00	99,276 16	31,865,561 16
	$ 594,909,067 89	22,235,260 81	12,736,888 60	1,091,223 61	40,627,250 92	156,181,578 97	11,052,506 30	6,428,892 33	844,262,668 43

A Statement of the Expenditures of the United States, from the 4th of March, 1789, to the 31st December, 1832.

Years.	Civil List.	Foreign Intercourse.	Miscellaneous.	Military Establishment.				Naval Establishment.	Public Debt.	Total Expenditures.
				Military Services, Fortifications, &c.	Revolutionary Pensions.	Other Pensions.	Indian Department.			
1791	757,134 45	14,733 33	311,533 83	632,804 03	- - -	175,813 88	27,000 00	570 00	5,287,949 50	7,207,539 02
1792	380,917 58	78,766 67	194,572 32	1,100,702 09	- - -	109,243 15	13,648 85	53 02	7,263,665 99	9,141,569 67
1793	358,241 08	89,500 00	24,709 46	1,130,249 08	- - -	80,087 81	27,282 83	- - -	5,819,505 29	7,529,575 55
1794	440,946 58	146,403 51	118,248 30	2,639,097 59	- - -	81,399 24	13,042 46	61,408 97	5,801,578 09	9,302,124 77
1795	361,633 36	912,685 12	92,718 50	2,480,910 13	- - -	68,673 22	23,475 68	410,562 03	6,084,411 61	10,435,069 65
1796	447,139 05	184,859 64	150,476 14	1,260,263 84	- - -	100,843 71	113,563 98	274,784 04	5,835,846 44	8,367,776 84
1797	483,233 70	669,788 54	103,880 82	1,039,402 66	- - -	92,256 97	62,496 33	382,631 89	5,792,421 82	8,626,012 78
1798	504,605 17	457,428 74	149,004 15	2,009,522 30	- - -	104,845 33	16,470 09	1,381,347 76	3,990,294 14	8,613,517 68
1799	592,905 76	271,374 11	175,111 81	2,466,946 98	- - -	95,444 03	20,302 19	2,858,081 84	4,596,876 78	11,077,043 50
1800	748,688 45	395,288 18	193,636 59	2,560,878 77	- - -	64,130 73	31 22	3,448,716 03	4,578,369 95	11,989,730 92
1801	549,288 31	295,676 73	269,803 41	1,672,944 08	- - -	73,533 37	9,000 00	2,111,424 00	7,291,707 04	12,273,376 04
1802	596,981 11	550,925 93	315,022 36	1,179,148 25	- - -	85,440 39	94,000 00	915,561 87	9,539,004 76	13,276,084 67
1803	526,583 12	1,110,834 77	295,217 87	822,055 85	- - -	62,902 10	60,000 00	1,215,230 53	7,256,159 43	11,258,983 67
1804	624,795 63	1,186,655 57	379,558 23	875,423 93	- - -	80,092 80	116,500 00	1,189,832 75	8,171,787 45	12,624,646 36
1805	585,849 79	2,798,028 77	384,720 19	712,781 28	- - -	81,854 59	196,500 00	1,597,500 00	7,369,889 79	13,727,114 49
1806	684,230 53	1,760,421 30	445,485 18	1,224,355 38	- - -	81,875 53	234,200 00	1,649,641 44	8,989,884 61	15,070,093 97
1807	655,524 65	577,826 34	464,546 52	1,288,685 91	- - -	70,500 00	205,425 00	1,722,064 47	6,307,720 10	11,292,292 99
1808	691,167 80	304,992 83	427,124 98	2,900,834 40	- - -	82,576 04	213,575 00	1,884,067 80	10,260,245 35	16,764,584 20
1809	712,465 13	166,306 04	337,032 62	3,335,772 17	- - -	87,833 54	337,503 84	2,427,758 80	6,452,554 16	13,867,226 30
1810	703,994 03	81,367 48	315,783 47	2,294,323 94	- - -	83,744 16	177,625 00	1,654,244 20	8,008,904 46	13,319,986 74
1811	644,467 27	264,904 47	457,919 66	2,032,828 19	- - -	75,043 88	151,875 00	1,965,566 39	8,009,204 05	13,601,808 91
1812	826,271 55	347,703 29	509,113 37	11,817,798 24	- - -	91,402 10	277,845 00	3,959,365 15	4,449,622 45	22,279,121 15
1813	780,545 45	209,941 01	738,949 15	19,652,013 02	- - -	86,989 91	167,358 28	6,446,600 10	11,108,123 44	39,190,520 36
1814	927,424 23	177,179 97	1,103,425 50	20,350,806 86	- - -	90,164 36	167,394 86	7,311,290 60	7,900,543 94	38,028,230 32
1815	852,247 16	290,892 04	1,755,731 27	14,794,294 22	- - -	69,656 06	530,750 00	8,660,000 25	12,628,922 35	39,582,493 35
1816	1,208,125 77	364,620 40	1,416,995 00	16,012,096 80	- - -	188,804 15	274,512 16	3,908,278 30	24,871,062 93	48,244,495 51
1817	994,556 17	281,994 97	2,242,384 62	8,004,236 53	- - -	297,374 43	319,403 71	3,314,598 49	25,423,036 12	40,877,646 04
1818	1,109,559 79	420,429 90	2,305,849 82	5,622,715 10	300,000 00	590,719 90	505,704 27	2,953,695 00	21,296,201 62	35,104,875 40
1819	1,142,180 41	284,113 94	1,640,917 06	6,506,300 37	1,847,900 85	568,039 00	463,181 39	3,847,640 42	7,703,926 29	24,004,199 73
1820	1,248,310 05	253,370 04	1,090,341 85	2,630,392 31	2,766,440 00	441,936 31	315,750 01	4,387,990 00	8,628,494 28	21,763,024 85
1821	1,112,292 64	207,110 75	903,718 15	4,461,291 78	- - -	242,817 25	477,005 44	3,319,243 06	8,367,093 62	19,090,572 69
1822	1,158,131 58	164,879 51	644,985 15	3,111,981 48	1,652,690 94	305,608 46	575,007 41	2,224,458 98	7,848,949 12	17,676,592 67
1823	1,058,911 65	292,118 56	671,063 78	3,096,924 43	1,449,097 04	331,491 48	380,781 82	2,503,765 83	5,530,016 41	15,314,171 00
1824	1,336,266 24	5,140,099 83	678,942 74	3,340,939 85	1,267,600 41	231,726 18	429,988 90	2,904,581 56	16,568,393 76	31,898,538 47
1825	1,330,747 24	371,066 25	1,046,131 40	3,659,914 18	1,308,810 57	- - -	724,106 44	3,049,083 86	12,095,344 78	23,585,804 72
1826	1,256,745 48	232,719 08	1,110,713 23	4,943,194 37	1,304,194 82	251,399 01	743,447 83	4,218,902 45	11,041,082 19	24,103,398 46
1827	1,228,141 04	659,211 87	826,123 67	3,938,977 88	796,012 62	180,126 34	760,624 88	4,263,877 45	10,003,668 39	22,656,764 04
1828	1,455,490 58	1,001,193 66	1,219,368 40	4,145,544 56	723,134 80	127,438 77	705,084 24	3,918,786 44	12,163,438 07	25,459,479 52
1829	1,327,069 36	207,765 85	1,565,679 66	4,724,291 07	764,492 38	185,102 09	576,244 74	3,308,745 47	12,383,867 78	25,044,358 40
1830	1,579,724 64	204,067 27	1,363,624 13	4,767,128 88	1,067,947 33	295,349 98	622,262 47	3,239,428 63	11,355,748 22	24,585,281 55
1831	1,373,755 99	298,554 00	1,392,336 11	4,841,835 55	1,001,938 98	168,726 16	930,738 04	3,856,183 07	16,174,378 22	30,038,446 12
1832	1,800,757 74	325,181 07	2,451,202 64	5,446,034 88	1,057,121 58	127,300 82	1,352,419 75	3,956,370 29	17,840,309 29	34,356,698 06
	$37,158,047 31	24,143,582 33	32,194,703 11	190,538,643 21	17,298,282 22	6,710,307 23	13,413,188 16	112,703,933 23	408,090,204 08	842,250,890 88

The War Department was created in 1789; to this department belong the direction and government of the army; the erection of fortifications; the execution of topographical surveys; and the direction of Indian Affairs. Attached to it are a Requisition Bureau, a Bounty Land Bureau, a Pension office, an office of Indian Affairs, an Engineer office, a Topographical office, an Ordnance office, &c. The army is under the command of the Major General, who is styled the General-in-chief. The Western Department of the army comprises all the country west of a line drawn from the southernmost point of Florida to the north-western extremity of Lake Superior, including Tennessee and Kentucky; the Eastern Department comprises all the rest of the country. Economy and political jealousy have combined to keep down the number of the army exceedingly low; it consists at present of two regiments of dragoons, four regiments of artillery, and seven of infantry, making, with the corps of Engineers, the Topographical Engineers, and the Ordnance Department, an aggregate of about 7,600 men, including one Major General, three Brigadiers General, nineteen Colonels, fifteen Lieutenant Colonels, twenty-eight Majors, and one hundred and forty Captains. The appropriation for the army for the year 1836, was 3,780,983 dollars; of which 988,317 was for pay of the army; 315,118 for subsistence of officers; 495,500 for subsistence of army; 330,000 for armories; 332,000 for Quartermaster's Department; 200,000 for arming fortifications; 231,500 for arsenals, &c. The defence of the country is, however, mainly confided to the militia, which in point of numbers is sufficiently formidable, amounting nominally to upwards of 1,300,000 men. But this vast body is extremely deficient in discipline and subordination, and even imperfectly armed and organized.

The office of Secretary of the Navy was created in 1798, and there is a Board of Navy Commissioners, established in 1815, attached to the Department. The navy, though on a small scale, acquired great reputation during the three years' war, when the American ships successfully encountered those of the mistress of the ocean. Much has since been done both in enlarging the number of vessels, and extending and constructing suitable dock-yards; but the naval force is not considered adequate to the exigencies of the country. It consists of eleven ships of the line, of which five are on the stocks, seventeen frigates, including six on the stocks, fifteen sloops of war, and eight smaller vessels; beside which there are on hand at the different yards live-oak frames for four ships of the line, eight frigates, and six sloops of war, and on the stocks one steam-frigate. The naval appropriation for the year 1836 was 6,375,154 dollars, including 2,318,017 for pay, 1,065,000 for repairs of vessels, 782,000 for subsistence, 798,125 for improvement and repair of yards, 438,749 for the marines, and 300,000 for an exploring expedition to the South Seas. There are seven Navy-Yards belonging to the United States, viz: at Portsmouth; at Charlestown, in

Boston Harbour; at Brooklyn, on Wallabout Bay, opposite New York; at Philadelphia; at Washington; at Gosport, opposite Norfolk, Virginia; and at Pensacola, Florida. There are graving or dry-docks at Charlestown and Gosport, and a third is constructing at Brooklyn.

The General Post Office is under the superintendence of a Postmaster General, who has the appointment of the postmasters throughout the country, and the power of making contracts for carrying the mail. The post routes cover an extent of 112,774 miles, on which the mails are carried 25,869,486 miles a year. The number of post-offices is 10,770; the revenue of the department for the year 1835 was 2,993,556 dollars; the expenditure, 2,757,350.

The Office of the Mint of the United States was established at Philadelphia in 1792, and in 1835 an act was passed for establishing a branch in New Orleans for the coinage of gold and silver, and branches at Charlotte, North Carolina, and Dahlonega, Georgia, for the coinage of gold; the general direction being under the control of the Director of the Mint at Philadelphia. The coinage is executed by machines propelled by steam-power; the value of the coinage during the year 1835 was 5,668,667 dollars, comprising 2,186,175 dollars in gold coins, 3,444,003 in silver, and 39,489 in copper, making 15,996,342 pieces of coin.

Each of the twenty-six States of the great American confederacy has its local government, organised by the people of the State with such powers and in such manner as they think fit, subject, however, to certain limitations made by the constitution of the United States; thus no State can enter into any treaty or alliance, impose duties on imports or exports, keep troops or ships of war in time of peace, coin money, engage in war, or enter into any agreement or compact with another State, or with a foreign power; the United States also guaranty to every State a republican form of government and prohibit the States from granting any title of nobility. All the State governments are in fact representative democracies, having an elective executive and legislature, chosen by the whole body of the people for a short term of service; the chief executive officer of each State is styled the Governor, and the legislative houses, styled General Assembly, General Court, or Legislature, consist of a Senate or Legislative Council, and a House of Delegates or Representatives. Suffrage is virtually universal; blacks, however, are not admitted to vote in most of the States, and in some a small property qualification is required. The judiciary of each State is most generally appointed by the executive or the legislature during good behaviour, but in some States, is elected annually or for a short term by the legislature or the people.

The State governments manage the local and domestic affairs of the members of the Confederacy; they enact the laws which regulate the social and domestic relations of individuals; organize, discipline, and command the militia; establish municipal institutions; charter banking, trading, manufacturing, religious, charitable, and scientific Companies and Societies; construct or authorize the construction of roads and canals; institute schools and colleges for the public education; and in general do whatever is necessary for the preservation of social order and the public tranquillity. The common law of England is the ground-work of the law in the United States; but its details and principles are more or less modified by statutory provisions of the respective States. In Louisiana the civil law prevails. A small revenue is raised in each State adequate to the expenditure of the government, by direct taxes, or excise and license duties.

Sect. V.—*Productive Industry.*

The United States have already made an astonishing progress in industry and wealth, but the present is insignificant in comparison with the future greatness to which their vast and unparalleled resources must carry them. An intelligent, enterprising, and free population, possessing the useful arts of the most improved society, with an extent of fertile territory unequalled in the Old World, and penetrated throughout by such immense lines of navigable communication, cannot fail, at no very distant period, to leave every other nation behind them. Agriculture has ever been the staple pursuit of the North Americans, and agricultural products have always constituted the chief articles of export from this country. The great cheapness and extraordinary fertility of land, and the facility of exchanging these products for articles of use or luxury, manufactured in the workshops of the Old World, conspire to make the people of the United States eminently an agricultural population. The first exports of the colonies were the products of the unbounded forest, which on the first settlement of the country covered both flanks of the mountains, and has even yet been slightly encroached on; furs, lumber, pitch and tar, pot and pearl-ashes, with some cattle and provisions, constituted the chief articles of trade from the northern provinces in the beginning of the 18th century, but rice and tobacco were already important items of exportation from the southern colonies. At a later period wheat became the great staple of the middle and western States, and cotton of the more tropical sections of the country; flax and hemp thrive particularly in the rich soil of Kentucky. Maize, an indigenous American grain, being suited to a great variety of soils and situations, is so universally cultivated as to have received the name of corn as a distinctive appellation. Oats for horses' food, and rye for distillation are the prevalent kinds of grain in the northern States, while in the extreme south the sugar-cane is found to flourish, and supplies about one-half of the home consumption of sugar. Wine, silk, hops, and beet for sugar are articles of prospective culture, regarding the value of which sanguine expectations are entertained.

Cotton, the great staple of the United States, is raised in small quantities in Virginia and Kentucky, but is chiefly produced to the south of those States. The American cotton is the produce of the herbaceous or annual cotton plant, and is of two kinds, the sea-island or long-staple, and the upland or short-staple; the former, which is of a superior quality, is grown only along the sea-coast of South Carolina and Georgia. Cotton was first sown in the United States in about 1787, and was first exported in small packages called pockets in 1790; in 1800, about 35,000,000 lbs. were raised; in 1810, 85,000,000 lbs.; in 1820, 160,000,000 lbs.; in 1830, 350,000,000 lbs.; and at present (1836) the cotton crop of the United States is about 480,000,000 lbs.; of which 386,000,000 lbs. are exported; the annual value of the crop at present prices is about 80,000,000 dollars; of the exports 63,000,000 dollars. It is estimated that good lands yield on an average, from 250 to 300 lbs. of clean cotton per acre, and inferior lands from 125 to 150 lbs., and that the capital invested in its cultivation is nearly 800,000,000 dollars. Of late a valuable oil has been obtained from the seeds. A new species of cotton, called Nankin cotton, of a rich yellowish colour and fine quality, is also beginning to be cultivated.

Tobacco, an indigenous American plant, has been the staple of Maryland and Virginia from their first settlement, and it is also extensively cultivated in Kentucky, Ohio, and other States. The tobacco of the United States is decidedly superior to that of most other countries, and beside the large quantity made into snuff, cigars, and manufactured tobacco, there is an annual exportation of between 80,000 and 90,000 hogsheads of leaf tobacco, of the value of about 6,000,000 dollars.

The sugar-cane is cultivated with success in Louisiana, where there are several varieties reared, as the Creole, the Otaheite, and the ribband; the ribband cane is thought to be the most hardy, and least liable to be injured by the frost. The cane does not produce seed anywhere in Louisiana, but it blooms on the sea-coast. The annual crop is about 100,000 hogsheads of sugar, with 63,000 hogsheads of molasses.

Rice was first cultivated in South Carolina in 1694, since which its culture has been so successful that, in addition to supplying the home consumption, it affords an annual surplus of from 130,000 to 150,000 tierces, of the value of two or two and a half million dollars, for exportation. We have no means of estimating the value of the grain, sheep, and cattle reared in the United States, but we shall give below the amount which they contribute to the exports of the country. We may add that indigo was formerly produced in large quantities in Carolina and Georgia, but since the introduction of cotton the culture of it has almost entirely ceased.

Manufactures of a high class are not suited to a country in an early stage, which finds it, in general, more advantageous to purchase with its raw produce the fabrics of richer and more populous nations. Yet notwithstanding the abundance of fertile land in the North American colonies, and their connexion with the greatest manufacturing people that has ever existed, we find the English Board of Trade in the beginning of the last century complaining, "that certain trades carried on and manufactures set up there, are detrimental to the trade, navigation, and manufactures of Great Britain." These manufactures appear, however, to have consisted merely of some woollen and linen clothing made in families for domestic use, bagging, paper, iron castings and nails, hats, and ships for their French and Spanish neighbours, as well as for the home supply, with some distilled spirits and refined sugar. But it was the policy of the mother country to discourage any attempts of the colonists to supply themselves with manufactured goods of any sort, and an eminent British statesman only expressed the general spirit of that policy, when he affirmed that "the only use of American colonies is the monopoly of their consumption and the carriage of their produce." Acts of parliament were accordingly passed (1732) restraining the number of apprentices taken by any hat-maker to two, and prohibiting the exportation of hats from any colony; and (1750) declaring any slitting or rolling-mill in the colonies a common nuisance, to be abated by the respective governors. It was no exaggeration, therefore, when Lord Chatham declared in parliament, that "the North American colonists had no right to make even a nail for a horse-shoe." During the war of the revolution some manufactures sprung up in the States, and on the adoption of the new constitution provision was immediately made for the support of the trades, handicrafts, and manufactures of the country by protecting duties, which have been continued up to the present time. Favored by such a variety of soil and climate, and producing so great a diversity and abundance of the raw materials; furnished with a cheap and inexhaustible supply of moving power in their torrents and rivers; already, in some branches of industry, possessed of the best machinery in the world; and daily making improvements which are even introduced, as far as the prejudices of the operatives will permit, into the manufactories of Europe, the United States will surely be able to cope with the manufacturing industry of any other people. At present, however, but a small proportion of the labour of the country is applied to this branch of industry, and but few of the finer fabrics are produced.

The annual value of the manufactures of the country was estimated by the Secretary of the Treasury (Gallatin), from imperfect returns, to exceed 120,000,000 dollars, in 1810, and by returns of the marshals in the following year it appeared that 324,998 looms produced upwards of 75,000,000 yards of cotton, woollen, and linen cloths, mostly made in families. Other returns gave for the value of manufactures of iron, 14,364,526 dollars; of distilled and fermented liquors, 16,528,207; of wood, 5,554,708; of hides and skins, 17,935,477; of hats, 4,328,744; of cordage, 4,243,168. Mr. Pitkin estimates the aggregate value of manufactures in 1835, to be from 325,000,000 to 350,000,000 dollars, and observes that the amount of foreign articles consumed in the country, exclusive of tea, wine, coffee, and spices, does not exceed one-third of this sum.

The first cotton-mill in the United States was built at Providence, in 1790, and power-looms were introduced at Waltham, in 1815; in 1835, it was estimated that the number of spindles was about 1,700,000; of looms, 48,000; annual consumption of cotton in the mills, 85 to 90 million pounds; value of their products 50,000,000 dollars. The American cotton stuffs are more substantial and durable than the English, and they are preferred in the foreign markets to which they have been carried. They include sheetings and shirtings, printed calicoes, jeans, carpeting, sail-cloth, &c.

The manufacture of woollens has been carried on in families for domestic use from an early period of the colonisation of the country; but it is only recently that large establishments have been erected for this purpose, some of which are supplied with the most improved machinery in the world. The number of sheep in the United States has been computed, or rather conjectured, at 20,000,000, probably yielding not less than 50,000,000 lbs. of wool, and from four to five million pounds are imported. The total value of the woollen manufacture is estimated by Pitkin at from 65,000,000 to 70,000,000 dollars, and it cannot be less than that amount. Among the products are broadcloths, cassimeres, satinets, flannels, blankets, carpeting, &c. Five hundred looms produce yearly upwards of 1,000,000 yards of ingrained, Venetian, and Brussels carpeting.

The leather manufactures, including boots, shoes, saddlery, trunks, &c., are an important branch of industry, and foreign hides to the value of upwards of 2,000,000 dollars are consumed in the country. Not only the home consumption of these articles is supplied, but there is an excess for exportation. The value of the manufacture is estimated at 45,000,000 dollars, and that of hats and caps of wool, fur, and leather, including nearly 1,000,000 dollars worth of straw bonnets, and palm-leaf hats, is supposed to amount to 15,000,000 dollars a year.

Hemp and flax are manufactured in considerable quantities, although the general use of cotton has in a great measure superseded linen as an article of clothing. In 1810, 23,503,590 yards of linen were made in families, and it is still made in that way only. About 4,500,000 yards of cotton-bagging are manufactured annually, and the yearly value of cables and cordage, to the spinning of which very ingenious machinery has been applied in some places, is estimated at 5,000,000 dollars. Some sail-cloth is also made.

The annual value of manufactured tobacco is about 2,000,000 dollars, of refined sugar about the same amount, of soap and candles nearly 12,000,000. Large quantities of spirits have been distilled from grain, fruits, and molasses, chiefly from the first and last. In 1810 the returns of the marshals give above 20,000,000 gallons distilled from rye and maize, and upwards of 5,000,000 from molasses, and although it is stated that in 1835 4,000 distilleries had been stopped by the progress of the Temperance Reform, vast quantities of these poisonous liquors are still prepared.

Glass and paper were early objects of manufacturing industry in the colonies. The value of the produce of the glass furnaces was estimated by the New York convention of the friends of domestic industry to amount, in 1831, to 3,000,000 dollars, but it is now much larger. Pitkin estimates that the paper annually made in the United States must be of the value of from 5,000,000 to 6,000,000 dollars, which, considering the great consumption of the country and the small amount imported, would rather appear to be below than above the truth. From the report of the New York convention it appears that there were in 1831, thirty chemical establishments in the United States, producing chemical articles used in the arts, of the value of 1,000,000 dollars a year; among these articles are copperas, Glauber, Rochelle, and Epsom salts, tartaric acid, chrome yellow, &c. The annual value of the cabinet-ware was estimated by the same body at 10,000,000 dollars, and a surplus is produced for exportation. Horn, wood, ivory, and shell combs are made of the value of about 800,000, and buttons to about the same amount. Both articles are exported.

The United States are richly supplied with valuable minerals, but it is only of late years that mines have begun to be a source of wealth, nor are they yet worked in a manner or to an extent worthy of their great importance. Gold, the most precious, and iron, the most useful of metals, and lead in inexhaustible quantities, are extensively diffused; coal and salt, the most valuable of mineral products, exist in abundance; while beautiful and durable building materials are furnished by the marble, freestone, and granite quarries of different sections of the Union.

The gold region of the United States is more fully described under the head of Geology. We will only observe here, that as far as mining operations have been carried on, it may be considered as extending along the eastern foot of the Blue Ridge, from the Rappahannock in Virginia to the river Coosa in Alabama, but that indications of gold ores have been met with as far north as Vermont, and as far south as the Gulf of Mexico. Mr. Dickson (*Trans. Penns. Geolog. Soc.*) asserts that there are richer ores of gold and richer diluvial gold de posits in the United States, than are to be met with at Gorgo Soco in Brazil, or in the Ural Mountains. The gold has been procured chiefly from North Carolina, Virginia, and Georgia, and mostly from washings; but several mining companies have lately introduced the powerful instruments of scientific mining, and are pushing their operations with great activity and success. We have no means of ascertaining the amount of gold that has been produced from this region, but the value of the metal sent to the United States Mint for coinage, from the year 1823 to 1836, was 4,377,500 dollars, and it has been estimated that not more than one-half of the whole produce has had that destination.

Iron, which constitutes in whole or in part the implements or the materials of almost every useful occupation, is abundantly distributed in this country. In 1810, the quantity of bar-iron made in the country was 27,000 tons; in 1830, it had increased to 112,860 tons; at the latter period 191,536 tons of pig-iron were produced, of the value of 13,329,760 dollars. The value of the manufactures of iron in 1810, was estimated at 14,364,526 dollars, and at present probably does not fall much short of 50,000,000, as there is not only a vast increase in the amount of the articles produced, but many new branches of manufacture have been introduced into the country within the few last years. About one half of the hardware and cutlery consumed are imported from Great Britain. Steam engines and all kinds of machinery, nails, fire-grates and stoves, chain-cables, agricultural and mechanical tools of all kinds, fire-arms, &c. are among the articles manufactured in the country. The process of smelting iron by means of coke having been lately applied with success in the United States, will afford new facilities in the prosecution of this important branch of industry.

The lead mines of the United States are extremely productive, but they have been worked in a very imperfect manner. They are situated in Missouri between the Gasconade, the head waters of the White River, and the Mississippi, and in Wisconsin Territory and Illinois, between the Wisconsin and Mississippi rivers, and on the opposite side of the latter. The annual product of the Missouri mines is about 3,000,000 lbs.; that of the mines on the Upper Mississippi 8,000,000 lbs. American manufactures of shot, and of red and white lead, now nearly supply the domestic consumption.

Salt is chiefly made in the United States from the brine springs, which are bountifully distributed through the country, particularly in the great western valley. In 1835, 2,000,000 bushels were made at the Onondaga springs in New York; 1,000,000 in the western part of Pennsylvania; 2,000,000 at the Kenhawa springs in Virginia; 500,000 in Ohio; about the same amount in Massachusetts from sea-water, forming with the quantities made in the other States an aggregate of about 7,000,000 bushels.

Coal of excellent quality is very widely and most copiously distributed throughout the country, and is daily becoming of greater importance in trade, as it is more extensively used in the manufacture of iron, glass, and salt, in propelling steam-engines, and for domestic purposes. Two sorts of coal occur in the United States, the anthracite and the bituminous. The former is found and largely mined in Pennsylvania in three distinct beds; two of which lie between the Lehigh and Susquehanna, and the head-waters of the Schuylkill and the North Branch of the Susquehanna, and the third is on both sides of the Lackawanna River, and of the North Branch of the Susquehanna, above and below the mouth of that tributary. This coal is already largely consumed in the Middle States and in New England, about 520,000 tons being now brought to market annually. The bituminous coal is found all over the Mississippi valley, on the head-waters of the Potomac, on the James River, on the Kennebeck, &c. We have no data for determining the actual consumption, but it is estimated that about 250,000 tons are consumed in and about Pittsburg, 160,000 in the salt manufacture of western Pennsylvania, and 300,000 in the salt-works of the Kenhawa, to which if we add the consumption of Wheeling, Cincinnati, Louisville, St. Louis, New Orleans, and many other towns of the valley for household purposes and manufactures, we cannot doubt that coal-mining is already an important branch of the industry of the country.

The commerce of the United States has attained an amazing magnitude, and they have already become the second commercial power in the world. There is no part of the globe that is not visited by American merchantmen; and Warden asserts that business is done in the United States more promptly than in any other country; that a vessel will be unladen in a few days which would elsewhere require as many months; that no ships are built so expeditiously or sail so fast. The foreign trade, the coasting trade, and the interior trade carried on over an unequalled extent of artificial and natural lines of communication, are all on an equal scale.

The exports of the United States consist chiefly of agricultural produce, and the naval stores, lumber, &c. of the forests. "On an average of eight years from 1803 to 1811, the produce of agriculture constituted about three quarters in value of all the domestic exports of the United States; of the forest, about one ninth; of the sea, about one fifteenth; and of manufactures, about one twentieth; and on the average of ten years from 1821 to 1830, the produce of agriculture constituted a little more than three quarters in value of the same exports; of the manufactures, about one twelfth; of the forest, about one thirteenth; and of the sea about one thirtieth."—(*Pitkin's Statistics.*) The whole value of the exports during the year 1835, was 121,693,577 dollars, of which 20,504,495 was of foreign merchandise, and 101,189,082 of domestic products. The following statement will show the value of each article of the latter for the years 1830, 1832, and 1834.

Statement of the Value of the Exports of the Growth, Produce, and Manufacture of the United States, during the years 1830, 1832, *and* 1834.

	1830.	1832.	1834.
THE SEA.—*Fisheries.*			
Dried Fish, or Cod Fisheries	$ 530,690	649,909	630,384
Pickled Fish, or River Fisheries,—Herring, Shad, Salmon, and Mackerel	225,987	306,812	223,290
Whale and other Fish Oil	568,326	1,009,728	740,619
Spermaceti Oil	38,618	38,161	50,018
Whalebone	112,357	186,595	169,434
Spermaceti Candles	249,292	267,333	257,718
Total	$ 1,725,270	2,558,538	2,071,493
THE FOREST.			
Skins and Furs	641,760	691,909	797,844
Ginseng	67,852	99,545	70,202
Staves, Shingles, Boards, Hewn Timber	1,501,658	1,522,053	1,901,628
Other Lumber	148,257	188,608	192,098
Masts and Spars	13,327	73,368	22,457
Oak Bark and other Dye	220,275	52,944	71,747
Manufactures of Wood	172,772	312,678	319,131
Naval Stores,—Tar, Pitch, Rosin, and Turpentine	321,019	476,291	525,390
Pot and Pearl Ashes	1,105,127	930,398	567,500
Total	$ 4,192,047	4,347,794	4,457,997
AGRICULTURE.			
Beef, Tallow, Hides, Horned Cattle	717,683	774,087	755,219
Butter and Cheese	142,370	290,820	190,099
Pork, Bacon, Lard, Live Hogs	1,315,245	1,928,196	1,796,001
Horses and Mules	182,244	164,031	233,554
Sheep	22,110	22,385	29,002
Wheat	46,176	93,500	39,598
Flour	6,085,953	4,830,623	4,520,781
Indian Corn	224,823	278,740	203,575
Indian Meal	372,296	480,033	491,910
Rye Meal	87,796	75,392	140,306
Rye, Oats, other small grain, and Pulse	66,249	78,447	49,465
Biscuit or Ship Bread	188,474	255,735	231,708
Potatoes	39,027	42,077	38,567
Apples	23,727	15,314	41,849
Rice	1,986,824	2,152,630	2,192,272
Indigo	827	....	148
Tobacco	5,586,365	5,999,769	6,595,305
Cotton	29,674,883	31,724,682	49,448,402
Flaxseed	180,973	123,036	281,990
Hops	30,312	25,448	164,557
Brown Sugar	2,975	11,292	6,461
Total	$46,977,332	49,416,183	67,380,787
MANUFACTURES.			
Soap, and Tallow Candles	619,238	701,184	616,692
Leather, Boots, and Shoes	338,603	277,388	177,731
Household Furniture	239,463	169,038	177,309
Coaches and other Carriages	51,190	45,277	50,683
Hats	309,362	310,912	181,726
Saddlery	36,651	29,572	41,[illegible]48
Wax	153,666	62,444	86,803
Spirits from Grain, Beer, Ale, and Porter	225,357	125,583	110,601
Spirits from Molasses	49,798	38,921	73,829
Snuff and Tobacco	246,747	295,771	328,409
Lead	4,831	4,483	805
Linseed Oil and Spirits of Turpentine	35,039	33,304	42,912
Cordage	4,135	13,863	22,062
Iron, Pig, Bar, and Nails	96,189	65,979	58,744
—— Castings	35,408	26,629	65,762
—— Manufactures of	177,876	120,222	111,958
Sugar, Refined	193,084	74,673	219,153
Chocolate	893	2,255	1,422
Gunpowder	128,625	96,023	224,986

EXPORTS—*continued.*

	1830.	1832.	1834.
Copper and Brass	36,601	105,774	198,273
Medicinal Drugs	92,154	130,238	119,671
Cotton Piece Goods—Printed or Coloured	61,800	104,870	188,619
—— White	964,196	1,052,891	1,756,136
—— Nankeens	1,093	341	1,061
—— Twist, Yarn, and Thread	24,744	12,618	88,376
—— Other Manufactures of	266,350	58,854	51,802
Flax and Hemp—Cloth and Thread	2,152	1,570	4,889
—— Bags and other Manufactures	1,779	2,685	6,162
Wearing Apparel	102,777	80,803	60,819
Combs and Buttons	124,589	124,305	169,206
Brushes	6,116	4,754	3,274
Billiard Tables	316	1,310	849
Umbrellas and Parasols	25,796	20,361	20,518
Leather and Morocco Skins	70,968	42,565	11,822
Printing Presses and Type	13,274	22,558	14,805
Fire Engines and Apparatus	....	7,758	86
Musical Instruments	10,261	4,952	6,269
Books and Maps	32,004	29,892	35,857
Paper and other Stationary	40,994	64,847	58,327
Paints and Varnish	13,716	24,411	18,946
Vinegar	6,690	4,677	3,805
Earthen and Stone Ware	2,773	6,333	12,745
Manufactures of Glass	60,280	106,855	79,229
—— Tin	4,497	3,157	2,230
—— Pewter and Lead	4,172	983	2,224
—— Marble and Stone	4,655	3,455	7,359
—— Gold and Silver, and Gold Leaf	3,561	653	4,422
Gold and Silver Coin	937,151	1,410,941	400,000
Artificial Flowers and Jewelry	13,707	14,852	7,898
Molasses	3,968	2,493	5,934
Trunks	6,654	5,314	4,438
Brick and Lime	2,482	3,502	4,294
Domestic Salt	22,978	27,914	54.007
Articles not enumerated	347,228	477,267	650,381
Total	$ 6,258,131	$ 6,461,774	6,648,393

The imports of the United States consist chiefly of manufactured articles, of all sorts, particularly the finer kinds, of tropical productions, as sugar, coffee, spices, of tea, of hides, of wines, spirits, fermented liquors, &c. The whole value of the imports for the year 1835, was 149,895,742 dollars.

1. *Statement of the Value of the Principal Articles Imported into the United States during the Year* 1834.

		IMPORTS.		EXPORTED.	
		Quantity.	Value.	Quantity.	Value.
Tea	lbs.	16,274,679	$6,213,835	3,081,126	$1,091,560
Coffee	do.	89,153,366	8,672,657	35,806,861	4,288,720
Sugar, Brown	do.	107,483,841	5,027,377	11,035,926	622,139
Do. White, Clayed	do.	7,906,014	510,452	2,928,602	212,083
Cacao	do.	2,757,309	229,147	2,024,438	219,821
Almonds	do.	2,009,008	196,874	191,323	36,115
Raisins	do.	14,321,084	783,834	1,022,184	64,015
Figs	do.	2,152,333	83,187	106,669	6,778
Pepper	do.	1,826,800	74,962	3,407.041	249,643
Pimento	do.	1,261,692	104,781	611,494	51,570
Cassia	do.	1,546,430	123,822	721,725	99,849
Nutmegs	do.	70,109	77,350	2,660	4,974
Indigo	do.	921,894	999,863	643,632	857,056
Wines, Madeira	galls.	322,506	599,664	33,686	28,687
Do. Sherry	do.	184,624	241,987	208	385
Do. French	do.	2,264.028	1,079,683	311,078	107,155
Do. Other	do.	1,992,064	844,274	291,099	144,981
Spirits from grain	do.	2,511,354	1,319,245	511,838	289,268
Beer, Ale, &c.	do.	89,837	100,888	5,323	4,501
Molasses	do.	17,086,472	2,989,020	58,736	13,797
Olive Oil in casks	do.	248,491	148,816	5,745	4,192
Linseed Oil	do.	507,790	315,972	29,781	24,609
Manufactures of Cotton		....	10,144,681	....	2,866,854
Do. of Silk		....	2,609,349	....	887,589
Do. of Lace		....	1.035,136	....	67,350
Do. of Woollen		....	7,379,228	....	818,222
Do. of Flax		....	786,891	....	1,351,262
Do. of Hemp		....	1,425,982	....	654,766
Do. of Iron and Steel		....	4,818,150	....	287,314
Do. of Brass		....	364,753	....	1,764
Do. of Leather		....	682,894	....	1,932
Iron in pigs	cwt.	255,011	303,568	842	1,589
Rolled Iron	do.	577,927	1,187,236	8,708	20,875
Hammered Iron	do.	635,698	1,742,883	4,094	12,571
Steel	do.	48,623	554,150	16,695	40,157
Hemp	do.	102,211	514,743	400	2,400
Wool	lbs.	591,313	317,925	1,602,535	291,729

TABLE—*continued.*

	IMPORTS.		EXPORTED.	
	Quantity.	Value.	Quantity.	Value.
Paper,	....	184,899	....	80,830
Books,	....	149,496	....	6,686
Rags	....	517,446	....	....
Furs	....	360,203	....	26,930
Hides	....	3,296,688	....	1,404,905
Dye Wood	....	604,406	....	614,624
Copper in pigs, bars, plates, &c	....	1,235,842	....	153,314
Tin in pigs, bars, plates, sheets, &c	....	124,589	....	216
Mahogany	....	353,905	....	104,990
Bullion and Specie, Gold	....	3,766,172	....	299,680
Do. do. Silver	....	14,145,450	....	1,386,578
Glass and Glass Ware	....	591,724	....	59,462
Porcelain, Earthen, and Stone Ware,	....	1,850,151	....	105,545
Cigars, million	62,784	671,791	11,784	129,625
Salt, bushel	6,038,076	839,315	50,495	13,219
Coal, do	2,005,522	200,277	15,326	3,120
Leghorn, Chip, &c. Hats and Bonnets	....	422,305	....	19,110

2. *Statement of the Value of the Trade with each Country, during the Year* 1834.

COUNTRIES.	COMMERCE.				NAVIGATION.			
	Value of Imports.	Value of Exports.			American Tonnage.		Foreign Tonnage.	
		Domestic Produce.	Foreign Produce.	Total.	Entered.	Departed.	Entered.	Departed.
	Dollars.	Dollars.	Dollars.	Dollars.	Tons.	Tons.	Tons.	Tons
Russia	2,595,840	168,627	162,067	330,694	18,787	4,979	556	300
Prussia	14,045	15,300	3,510	18,810	164	- - -	- - -	299
Sweden and Norway	1,079,327	277,237	128,562	405,799	10,404	1,437	8,809	3,486
Swedish West Indies	47,214	81,040	7,902	88,942	990	2,619	- - -	236
Denmark	62,542	99,643	318,461	418,104	184	2,528	1,897	2,280
Danish West Indies	1,621,826	1,084,202	354,808	1,439,010	27,065	38,757	472	1,727
Belgium	185,679	585,342	873,300	1,458,642	6,210	11,321	394	4,716
Netherlands	1,123,956	2,365,536	1,258,138	3,623,674	17,374	25,819	1,787	7,171
Dutch East Indies	682,159	115,011	466,138	581,149	3,497	8,323	- - -	346
Dutch West Indies	354,192	284,552	62,136	346,688	16,484	11,266	195	181
Dutch Guiana	67,579	27,228	- - - -	27,228				
England	45,566,085	38,673,694	2,974,726	41,648,420	200,685	216,256	109,665	89,936
Scotland	1,402,030	2,344,785	28,789	2,373,574	3,757	6,655	18,108	13,454
Ireland	274,712	189,914	189	190,103	2,199	2,020	10,144	245
Gibraltar	200,691	506,703	283,785	790,488	3,771	12,993	358	690
Malta	49,523	37,426	- - - -	37,426	205	1,091		
British East Indies	2,293,012	199,602	206,941	406,543	7,400	5,655		
St. Helena	- - - -	16,098	- - - -	16,098				
British Guiana	31,424	105,214	- - - -	105,214				
British West Indies	1,163,509	1,532,100	64,439	1,596,539	37,061	51,329	18,277	18,298
British American Colonies	1,548,733	3,477,709	57,567	3,535,276	173,278	195,989	289,984	233,120
Newfoundland	- - - -	- - - -	- - - -	- - - -	263	397	993	4,416
Honduras	149,599	56,072	39,376	95,448	2,933	4,041	1,719	807
Cape of Good Hope	- - - -	- - - -	2,521	2,521	261	1,500		
Hanse Towns, &c.	3,355,856	2,603,571	2,056,103	4,659,674	14,946	16,719	26,588	27,127
France on Atlantic	15,813,773	11,683,356	1,440,331	13,123,687	64,242	79,820	15,161	14,632
France on Mediterranean	1,327,400	1,032,398	1,352,889	2,385,287	10,781	17,846	4,664	3,775
Bourbon, &c.	- - - -	19,717	- - - -	19,717	- - -	149		
French West Indies	416,072	561,179	19,084	580,263	19,595	26,909	5,301	5,314
French Guiana	- - - -	2,488	- - - -	2,488				
Hayti	2,113,717	1,244,424	192,528	1,436,952	34,101	32,682	134	617
Spain on Atlantic	640,869	202,744	25,033	227,777	9,355	6,136	250	1,521
Spain on Mediterranean	1,112,365	187,473	- - - -	187,473	12,730	4,625	1,381	2,886
Teneriffe, &c.	148,130	20,638	787	21,425	2,481	1,826	135	352
Manilla and Philippine Islands	283,685	3,662	12,257	15,919	2,647	222		
Cuba	9,096,002	3,692,980	1,659,455	5,352,435	123,274	129,624	31,729	29,954
Other Spanish West Indies	2,246,413	431,805	59,722	491,527	33,252	15,769	1,671	741
Portugal	215,309	42,542	16,583	59,125	19,796	2,928	2,574	556
Madeira	424,699	100,910	43,595	144,505	2,420	4,089	676	693
Fayal and other Azores	18,481	9,558	3,911	13,469	1,270	760		
Cape de Verd Islands	40,633	79,511	25,886	105,397	1,307	3,391		
Italy	1,422,063	105,786	387,771	493,557	8,860	4,482	175	426
Sicily	254,908	4,060	- - - -	4,060	6,150	- - -	864	311
Trieste, &c.	580,614	518,609	954,728	1,473,337	5,045	7,530	1,476	3,397
Turkey, Levant	569,511	62,458	321,221	383,679	4,768	2,346	107	
China	7,892,327	255,756	754,727	1,010,483	15,550	8,123		
Mexico	8,066,068	1,192,646	4,072,407	5,265,053	29,289	25,504	7,163	6,032
Central Republic of America	170,968	111,616	72,533	184,149	1,238	1,975		
Colombia	1,727,188	420,758	374,809	795,567	18,278	8,773	1,048	866
Brazil	4,729,969	1,586,097	473,254	2,059,351	34,900	37,092	3,089	1,977
Argentine Republic	1,430,118	671,166	300,671	971,837	9,852	6,379	288	285
Cisplatine Republic	- - - -	- - - -	- - - -	- - - -	3,920	4,774		
Chili	787,409	714,407	761,948	1,476,355	2,535	8,560	- - -	6
Peru	618,412	42,767	16,096	58,863	493	655		
South America, generally	20,214	323,580	6,314	329,894	952	601		
Europe, generally	- - - -	76,938	8,476	85,414	1,367	968	- - -	270
Asia, generally	77,842	49,122	384,925	434,047	479	2,593		
Africa, generally	465,361	201,908	121,284	323,192	5,850	4,906	207	602
West Indies, generally	- - - -	391,565	17,078	408,643	62	12,953	143	3,251
South Seas	27,348	81,583	15,586	97,169	30,506	280		
North-west Coast	- - - -	51,349	67,464	118,813	- - -	45,886		
Uncertain Ports	13,893	- - - -	- - - -	- - - -	387	650		
Total	126,521,332	81,024,162	23,312,811	104,336,973	1,074,670	1,134,020	568,052	577,700

3. *Statement of the Commerce of each State and Territory, during the Year* 1834.

STATES AND TERRITORIES.	VALUE OF IMPORTS.			VALUE OF EXPORTS.						
				Domestic Produce.			Foreign Produce.			Total of Domestic & Foreign Produce.
	In American vessels.	In Foreign vessels.	Total.	In American vessels.	In Foreign vessels.	Total.	In American vessels.	In Foreign vessels.	Total.	
	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.
Maine - - -	869,441	190,680	1,060,121	726,385	88,892	815,277	18,234	656	18,890	834,167
New Hampshire	118,235	460	118,695	79,656	- - -	79,656	1,214	- - -	1,214	80,870
Vermont - -	322,806	- - -	322,806	334,372	- - -	334,372	- - -	- - -	- - -	334,372
Massachusetts -	17,299,053	373,076	17,672,129	4,355,800	316,946	4,672,746	5,218,293	257,781	5,476,074	10,148,820
Rhode Island -	426,569	455	427,024	405,967	14,918	420,885	80,741	- - -	80,741	501,626
Connecticut -	381,285	4,435	385,720	421,419	- - -	421,419	997	- - -	997	422,416
New York - -	68,292,736	4,895,858	73,188,594	11,596,306	2,253,163	13,849,469	7,406,536	4,256,009	11,662,545	25,512,014
New Jersey -	27	4,465	4,492	6,472	1,659	8,131	- - -	- - -	- - -	8,131
Pennsylvania -	9,913,792	565,476	10,479,268	1,630,645	401,158	2,031,803	1,568,094	389,849	1,957,943	3,989,746
Delaware - -	175,735	10,208	185,943	51,945	- - -	51,945	- - -	- - -	- - -	51,945
Maryland - -	4,218,917	428,566	4,647,483	2,143,899	868,809	3,012,708	705,100	450,437	1,155,537	4,168,245
Dist. of Columbia	174,753	21,501	196,254	664,145	142,757	806,902	13,492	- - -	13,492	820,394
Virginia - -	734,223	103,102	837,325	4,750,003	719,237	5,469,240	10,372	3,486	13,858	5,483,098
North Carolina	193,955	28,517	222,472	360,012	111,394	471,406	- - -	- - -	- - -	471,406
South Carolina	879,675	907,592	1,787,267	7,255,281	3,864,284	11,119,565	35,974	52,239	88,213	11,207,778
Georgia - - -	202,432	344,370	546,802	6,166,844	2,400,483	7,567,327	- - -	- - -	- - -	7,567,907
Alabama - -	293,638	101,723	395,361	4,141,786	1,522,261	5,664,047	6,750	- - -	6,750	5,670,797
Mississippi - -	- - - -	- - -	- - - -	- - -	- - -	- - -	- - -	- - -	- - -	- - - -
Louisiana - -	8,969,944	4,811,865	13,781,809	16,838,562	6,921,045	23,759,707	1,341,385	1,456,532	2,797,917	26,557,524
Ohio - - - -	14,799	4,968	19,767	145,381	96,070	241,451	- - -	- - -	- - -	241,451
Florida Territory	111,957	23,841	135,798	175,218	14,967	190,185	160	33,480	33,640	228,825
Michigan Ter'y.	106,202	- - -	106,202	36,021	- - -	36,021	- - -	- - -	- - -	36,021
Total - -	113,700,174	12,821,158	126,521,332	61,286,119	19,738,043	81,024,162	16,407,342	6,905,469	23,312,811	104,336,973

4. *Table showing the Value of Imports, Exports, and Consumption of Foreign Merchandise in the United States, from the Year* 1789 *to* 1836. (From the Nat. Calendar, 1836.)

Years.	Imports.	Exports of Foreign Merch'dise.	Consumption.	Exports of Domestic Mer'dise.	Whole Exports.
1790	$23,000,000	$300,000	$23,500,000	$19,666,000	$20,205,156
1791	29,200,000	500,000	30,000,000	18,500,000	19,012,041
1792	31,500,000	1,000,000	31,500,000	19,000,000	20,753,098
1793	31,100,000	1,750,000	30,800,000	24,000,000	26,109,572
1794	34,600,000	6,500,000	29,500,000	26,500,000	33,026,233
1795	69,756,268	8,300,000	63,000,000	39,500,000	47,989,472
1796	81,436,164	26,300,000	56,636,164	40,764,097	67,064,079
1797	75,379,406	27,000,000	50,379,406	29,850,206	56,850,206
1798	68,551,700	33,000,000	37,551,700	28,527,097	61,527,097
1799	79,069,148	45,523,000	35,546,148	33,142,522	78,665,522
1800	91,252,768	49,130,877	44,121,877	31,840,903	70,971,780
1801	111,363,511	46,642,721	66,720,790	47,473,204	94,115,925
1802	76,333,333	35,774,971	42,558,362	36,708,189	72,485,160
1803	64,666,666	13,594,072	52,072,594	42,205,961	55,800,033
1804	85,000,000	36,231,597	50,768,403	41,467,477	77,699,074
1805	120,600,000	53,179,019	69,420,981	42,387,002	95,566,021
1806	129,410,000	60,283,234	71,126,766	41,253,727	101,536,963
1807	138,500,000	59,643,558	81,856,442	48,699,592	108,843,150
1808	56,990,000	12,997,414	46,992,586	9,433,546	22,430,960
1809	59,400,000	20,797,531	41,602,469	31,405,702	52,203,233
1810	85,400,000	24,391,295	64,008,705	42,366,675	66,757,970
1811	53,400,000	16,022,790	40,377,210	45,294,043	61,316,833
1812	77,030,000	8,495,127	71,534,973	30,032,109	38,527,236
1813	22,005,000	2,847,845	23,157,155	25,008,132	27,855,997
1814	12,965,000	145,169	15,819,831	6,782,272	6,927,441
1815	113,041,274	6,583,350	109,457,924	45,974,403	52,557,753
1816	147,103,000	17,138,555	132,964,445	64,781,896	81,920,452
1817	99,250,000	19,358,069	82,891,931	58,313,500	82,671,569
1818	121,750,000	19,426,696	105,323,304	73,854,437	93,281,133
1819	87,125,000	19,165,683	70,959,317	50,976,838	70,142,521
1820	74,450,000	18,008,029	56,441,971	51,683,640	69,691,669
1821	62,585,724	21,302,488	41,283,236	43,671,894	64,974,328
1822	83,241,541	22,286,202	60,955,339	49,874,079	72,160,281
1823	77,579,267	27,543,622	50,035,645	47,155,408	74,699,030
1824	80,549,007	25,337,157	55,211,850	50,649,500	75,986,657
1825	96,340,075	32,590,643	63,749,432	66,944,745	99,535,388
1826	84,974,477	24,539,612	60,434,865	53,055,710	77,595,322
1827	79,484,068	23,403,136	56,080,932	58,921,691	82,324,827
1828	88,509,824	21,595,017	66,914,807	50,669,669	72,264,686
1829	74,492,527	16,658,478	57,834,049	55,700,193	72,358,671
1830	70,876,920	14,387,479	56,499,441	59,462,029	73,840,508
1831	103,191,124	20,033,526	83,157,598	61,277,027	81,310,583
1832	101,029,266	24,039,473	76,989,793	63,137,470	87,176,943
1833	108,118,311	19,822,735	88,295,576	70,317,698	90,140,433
1834	126,521,332	23,812,811	102,708,521	81,024,162	104,336,973
1835*	151,030,368	20,424,213	130,606,155	98,531,026	118,955,239

* Partly estimated for the quarter ending Sept. 30, 1835.

REMARKS.

1. Prior to 1821 the Treasury Reports did not give the value of the Imports. Their value from 1795 to 1801 has been taken from Pitkin's Statistics, and the value of those in 1815 from Seybert. The value of those in 1802, 1803, 1804, 1807, 1817, 1818, and 1819, and those from 1790 to 1795, from manuscript notes and estimates now made in the Department. The value of those in 1805, 1806, 1808, 1809, 1810, 1811, 1812, 1813, 1814, 1816, and 1820, from calculations, and comparisons with other years. The value of the Imports from 1821, inclusive, has been taken from official documents.

2. As the Books of Exports from 1790 to 1803 were lost or destroyed during the war, the amount of Exports of Foreign Merchandise from 1790 to 1796 have now been estimated in the Department from official returns. Those from 1796 to 1802 have been taken from various sources believed to be authentic, and in part from data given in the annual Treasury Report of December, 1801. Their values from 1803 to 1820 have been copied from Pitkin's Statistics, and are believed to be chiefly from official documents; and from 1820 to 1834, from official returns on file. Free goods are included in the total of Exports, but not in any account of Imports previous to 1819. Hence, up to that year have been added for the consumption of free goods,

In 1790 and 1791,	$ 1,000,000 per annum;	In 1797 to 1807,	$ 2,000,000;
1792 to 1796,	1,500,000;	1807 to 1818,	3,000,000.

3. The Whole Exports and Domestic Exports are chiefly from official returns, except the Domestic Exports from 1790 to 1795, which have been recently estimated by the Department from the quantities on record and comparative statement; the value of those in 1791, however, are estimated in the annual report of that year.

The shipping by which the active and extensive trade of the country is carried on is chiefly American, and ship-building has always been a very important branch of the national industry. The shipping interest has been protected by discriminating tonnage-duties on foreign tonnage, from the establishment of the new government in 1789, and by the entire exclusion of foreign vessels from the coasting trade. All vessels engaged in the foreign trade are registered by the collector of the district to which they belong, and those employed in the coasting trade and fisheries are enrolled and licensed by the same officer. The whole amount of the shipping in the beginning of the year 1834, was 1,606,150 tons; of which 750,026 was registered tonnage, and 856,124 enrolled and licensed, including 101,306 tons employed in steam navigation.

				Tons.
Of Registered Tonnage were employed in the			Whale Fishery	101,158
Of Enrolled and Licensed		do.	Coasting Trade	744,198
Do.	do.	do.	Cod Fishery	62,720
Do.	do.	do.	Mackerel Fishery	48,725

"It must be recollected, however," says one of the committees of the New York convention, "that many vessels owned in the United States trade under foreign flags, and therefore do not appear in the tonnage account. It is also well known that the great improvements made in ship-building of late years, by combining the carriage of large burdens with fast sailing, have given this country a decided advantage over all others in the despatch of business; whence it may be inferred that the United States gain in celerity, in the performance of effective duty, and the preference obtained in the freighting business, at least one-fifth over their most judicious competitors."

Statement of the Amount of Tonnage, at several Different Periods.

Years.	Registered.	Enrolled and Licensed.		Total.
		Coasting.	Fisheries.	
1789	123,893	68,607	9,062	201,562
1800	669,921	272,492	30,079	972,492
1818	606,089	549,374	69,722	1,225,185
1830	576,475	516,978	98,323	1,191,776
1832	686,990	649,627	102,833	1,439,450
1834	750,026	744,198	111,924	1,606,149

The whole amount of the tonnage entering the ports of the United States during the year 1834, was 1,642,722 tons, of which 1,074,670 were American, and 568,052 foreign; cleared 1,711,720 tons, of which 1,134,020 were American, and 577,700 foreign.

Statement of the Tonnage belonging to, and also of the Tonnage Entered and Cleared at the Principal Ports of the United States, and Amount of Duties accruing at each, during the Year* 1834.

Ports.	Belonging.	Entered.			Cleared.			Duties Paid.
		American.	Foreign.	Total.	American.	Foreign.	Total.	
New York - - -	323,734	342,630	101,067	443,697	232,934	96,151	329,085	$10,204,572
Boston - - - - -	189,391	154,941	28,144	183,085	127,295	29,542	156,837	2,831,766
Philadelphia - - -	79,558	64,347	19,457	83,804	46,411	16,236	62,647	2,111,837
New Bedford - - -	76,849	22,916	277	23,193	21,861	1,339	23,200	25,506
Nantucket - - - -	64,545	- - -	46	46	- - -	46	46	1,228
New Orleans - - -	60,904	69,131	67,199	136,330	112,230	71,599	183,529	1,554,818
Baltimore - - - -	50,109	46,983	18,045	65,028	41,586	17,350	58,946	673,024
Portland - - - -	49,012	31,968	1,366	33,334	40,313	1,572	41,885	182,832
Bath - - - - - -	42,773	8,990	- - -	8,990	8,099	- - -	8,099	21,120
Salem - - - - -	31,877	13,917	191	14,108	15,515	- - -	15,515	66,347
Belfast - - - - -	22,646	2,288	42	2,330	3,763	42	3,805	6,912
New London - - -	27,869	5,861	- - -	5,861	8,056	- - -	8,056	210
Newburyport - - -	21,535	5,497	- - -	5,497	6,168	- - -	6,168	26,600
Norfolk - - - -	21,883	6,176	11,893	18,069	16,651	13,385	30,036	41,370
Providence - - -	19,214	11,092	224	11,316	8,697	224	8,921	83,522
Portsmouth - - -	15,809	8,773	78	8,851	4,330	27	4,408	87,960
Wilmington - - -	13,970	144	- - -	144	- - -	- - -	- - -	4,478
Charleston - - - -	12,231	13,251	36,008	54,259	60,347	40,495	100,842	459,835

* Several of the statements here given include a whole District.

The fisheries have been pursued by the New Englanders with a rare spirit of hardy enterprise, from an early period of the settlement of the country. The whale fishery is prosecuted in the Atlantic ocean, chiefly south of the line, for the right or black whale, and in the Southern, Indian, and Pacific oceans, for the spermaceti whale. In the year 1834, 101,638 tons of shipping were employed in this business; and in the course of the year 1835, 172,683 barrels of spermaceti, and 120,649 of whale oil were brought home, of the value of about 6,500,000 dollars. Seal oil and furs are also obtained in the Antarctic seas by these adventurous seamen. The fishery is carried on chiefly from the ports of Nantucket and New Bedford, and also but on a less scale from New London, Sag Harbour, Warren, Bristol, Hudson, &c. About 10,000 men are engaged in it, and the seamen are paid, not by fixed wages, but by a certain share in the profits of the voyage. Those in the Pacific and Southern oceans are generally absent from two to three years at a time.

The cod fishery is pursued on the Banks and coasts of Newfoundland, and on the Labrador coasts. It employs upwards of 60,000 tons of small craft, some of which make several trips a year; those on the coast-fisheries generally remain longer. The produce of this fishery may be estimated at from 1,200,000 to 1,500,000 dollars a year, about one-half of which is exported. The mackerel fishery employs about 50,000 tons of shipping, and produces about 2,000,000 dollars annually; in the year 1834, 252,883 barrels of pickled mackerel were inspected in the Massachusetts inspection offices.

We are unfortunately destitute of the proper data for ascertaining the actual amount of the coasting trade, which is known to be very extensive, and which, as will be perceived by a reference to the table above given, has increased much more rapidly than the foreign trade of the country. The great development of our natural resources and the extension of our manufactures, causing the raw material which was formerly exported to foreign countries to be shipped from the producing to the manufacturing districts, and supplying a large amount of manufactured articles formerly imported, sufficiently account for this fact. The inland trade has increased still more wonderfully. "It may be here remarked," says the committee before quoted, "that the magnitude and extent of the American bays, rivers, and lakes, call into existence two descriptions of boats, unknown in Europe, which navigate the Mississippi, Alabama, Tombigbee, and other large rivers of the south and west, with their tributary waters. These boats, carrying from 30 to 50 tons, are to be seen in countless numbers, on the Mississippi and Ohio especially, and are not licensed or noticed in the custom-house reports. By a conjectural estimate they amount to 150,000 or 200,000 tons on the various waters of the United States. To these may be added the coal-boats of the Susquehanna, Delaware, Lehigh, Schuylkill, and Lackawaxen, which this year (1830) delivered 200,000 tons of coal at Philadelphia, Baltimore, and New York."

The banking institutions of the United States are joint-stock-companies, incorporated by the respective States with fixed capitals, and as they are all banks of circulation, and their bills form the principal circulating medium of the country, a general view of their number and amount of capital belongs properly to this place. The metallic currency of the country has been recently much enlarged by the importation and coinage of bullion, and in many of the States the circulation of bank-notes of less than five dollars is prohibited by law.

Number and Capital of the Banks of the several States, in 1830 and 1835.

States.	1830.		1835.	
	No. of Banks.	Capital.	Number of Banks.	Capital.
Maine	18	$ 2,050,000	35	$ 3,449,850
New Hampshire	18	1,791,690	26	2,655,008
Vermont	10	432,625	17	921,815
Massachusetts	66	20,420,000	105	30,509,450
Rhode Island	47	6,118,397	60	8,096,482
Connecticut	13	4,485,177	31 (3 branches)	7,350,766
New York	37	20,083,353	84 (2 br.)	30,481,460
New Jersey	18	2,017,009		
Pennsylvania	33	14,609,963	41	17,737,064
Delaware	6	830,000	3 (3 br.)	730,000
Maryland	13	6,250,495	14 (4 br.)	7,542,639
District of Columbia	9	3,875,794	7	2,613,985
Virginia	4	5,571,100	5 (17 br.)	5,840,000
North Carolina	3	3,195,000	4 (7 br.)	2,464,925
South Carolina	5	4,631,000	2 (2 br.)	2,156,318
Georgia	9	4,203,029	13 (10 br.)	6,783,308
Alabama	2	643,503	2 (3 br.)	5,606,523
Mississippi	1	950,600	2 (7 br.)	5,890,162
Louisiana	4	5,665,980	10 (31 br.)	26,422,145
Tennessee	1	737,817	2 (4 br.)	2,745,241
Ohio	11	1,454,386	22	5,079,324
Michigan	1	10,000	7 (1 br.)	678,980
Florida	1	75,000	2	114,320
Kentucky	..	....	6 (10 br.)	4,898,685
Indiana	..	....	1 (9 br.)	800,000
Illinois	..	....	1 (3 br.)	278,730
Totals	330	$ 110,101,898	503 (117 branches)	$ 181,829,280*

* In addition to the numbers here given, were 52 banks with 5 branches, from which imperfect returns were received, with an estimated capital of 14,421,048 dollars.

Of the interior water communications of this country, those bestowed by nature have already been alluded to. No part of the world presents such an extensive river commerce. Steam vessels, a grand improvement, first introduced in America, ply on all the principal streams, and of upwards of 100,000 tons of this species of craft belonging to the United States in 1834, almost the whole was on the interior waters. On the Mississippi and its tributaries alone, an extent of 8,000 miles was traversed by 230 steam-boats. Neither the States nor individuals have been slow in improving and extending these natural advantages; and the spirit with which they have undertaken, and the perseverance they have shown in executing the most magnificent plans, have shed a lustre on the American name. The great land-locked bays of the coast have been connected by a chain of canals, affording a safe internal water-route from Narragansett Bay to Albemarle Sound. The eastern and western waters have been united by several channels, which either turn the Alleghanies or surmount their summits. The waters of the Lakes and the Mississippi have been connected at various points, and the obstacles in the navigation of the most important rivers have been overcome by removing the bars or ledges which obstructed their channels, or by side-cuts, locks, and dams. The whole length of this artificial navigation is not less than 3,500 miles; all of which, with one or two trifling exceptions, has been executed in the short space of 20 years. These great works have already given fresh life to manufactures, and encouraged the establishment of new ones; invigorated, and in many places created, internal trade; promoted agriculture, which requires a cheap and easy transportation for the bulky articles which it consumes and produces; and developed, in an astonishing degree, the mining industry of the country.

View of the Principal Canals in the United States.

	Length—Miles.
Annapolis, from Annapolis to the Chesapeake and Ohio Canal	?
Blackstone, Worcester to Providence	45
Black River, Rome to Carthage, in progress	76
Cayuga, Geneva on Seneca Lake, to Montezuma on Erie Canal	20
Central, from Wabash and Erie Canal, above Loganport, by valley of White River, to Evansville, in progress	290
Champlain, from Whitehall, to Waterford on the Hudson	63
Chemung, Elmira to Seneca Lake	23
Chenango, Binghampton on North Branch of Susquehanna, to Utica	96
Chesapeake and Ohio, Georgetown on Potomac, to Cumberland	186
Chesapeake and Delaware, from the Delaware to the Elk, ship canal	14
Cross Cut, Terre Haute on Wabash and Erie Canal, to Eel River and Central Canal, in progress	40
Cumberland, Portland to Sebago Pond	20
Delaware, from Easton to Bristol	60
Delaware and Hudson, mouth of Roundout creek to mouth of Lackawaxen	82½
Delaware and Raritan, New Brunswick to Bordentown, ship canal	42½
Navigable feeder of, from Bull's Island to Trenton	24
Dismal Swamp, Deep Creek of Chesapeake Bay, to Joyce's Creek of Albemarle Sound	23
Erie, Albany to Buffalo	363
Farmington, New Haven to Northampton	78
Genesee Valley, Rochester, to Olean on the Alleghany, in progress	107
Illinois and Chicago, from the Illinois to Lake Michigan, in progress, about	100
James and Kenhawa, improvement of the river navigation and junction of the rivers	?
Lackawaxen, Delaware to Honesdale	36
Lafourche, Mississippi above New Orleans, to the Atchafalaya	85
Lehigh, Easton to White Haven	66
Louisville and Portland, ship canal, round the falls in the Ohio	2
Middlesex, from Boston to Lowell	27
Maryland, Baltimore to Chesapeake and Ohio Canal	?
Miami, Cincinnati to the Maumee	265
Morris, Jersey City opposite New York, to Easton	101
Muscle Shoal, round the Muscle Shoals in the Tennessee	37
Ohio and Erie, Portsmouth to Cleaveland, with lateral branches	340
Oswego, Syracuse on Erie Canal, to Oswego	38
Pennsylvania:	
Central and Western Divisions, Columbia to Pittsburg, including Alleghany Portage Rail-Road of 36½ miles	312
Susquehanna Division, Juniata to Northumberland	39
West Branch Division, Northumberland to Dunnstown	66
North Branch Division, Northumberland to the Lackawanna	76
Beaver Division, from Beaver to Mercer County	30
French Creek Division	46
Pennsylvania and Ohio, Akron on Ohio Canal, to Newcastle on Beaver Canal	82
Sandy and Beaver, Bolivar on Ohio Canal, to mouth of Little Beaver	73
Santee, from the Santee to the Cooper	22

TABLE—*continued.*

	Length—Miles
Savannah and Alatamaha	60
Schuylkill, Philadelphia to Port Carbon	108
Susquehanna, Columbia to Port Deposit	40
Union, Middletown on the Susquehanna, to Reading	82
Wabash and Erie, Lafayette to the Maumee, in progress	210
To be extended to Terre Haute	80
White Water, National Road, Wayne County, Indiana, to Lawrenceburg, in progress	76

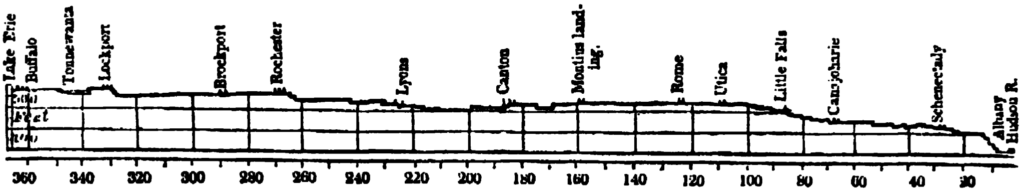
The Americans have equally surpassed all other people in the number and extent of their rail-roads, having, in less than ten years, constructed nearly 1,500 miles of these artificial levels, over which carriages are propelled by locomotive steam-engines at the rate of from 20 to 30 miles an hour. Although this contrivance is less adapted than canals to the conveyance of bulky articles, yet it possesses some advantages over that mode of transportation, such as that of not being interrupted by ice, and that of being suited to some localities in which artificial water-communication would be impracticable. The following table presents a view of the principal rail-roads, completed or in progress, in the United States.

View of the Principal Rail-Roads in the United States.

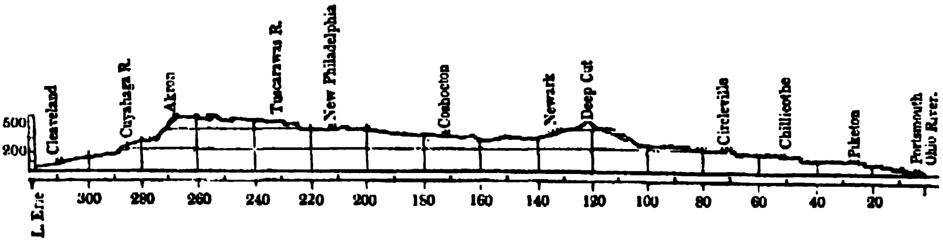
	Length—Miles.
Alleghany Portage, Hollidaysburg to Johnstown, connecting Central and Western Divisions of Pennsylvania Canal	36½
Auburn and Syracuse, Auburn to Syracuse, New York, in progress	25
Augusta and Athens, Georgia, in progress	114
Baltimore and Ohio, completed to Harper's Ferry	80
Baltimore and Philadelphia, through Wilmington	92½
Baltimore and Washington	40
Baltimore and Susquehanna, through Gettysburg and York to Susquehanna	78
Boston and Lowell	25½
Boston and Providence	41
Boston and Worcester. See Western Rail-Road.	
Camden and Amboy, Camden opposite Philadelphia, to Amboy on the Raritan	61
Central, Savannah to Macon, in progress	200
Columbia, Philadelphia to Columbia	81½
Danville and Pottsville	52
Cumberland Valley, Harrisburg to Chambersburg, in progress	49
Detroit and St. Joseph's, from Detroit to mouth of the St. Joseph's, in progress	200
Eastern Shore, from Cecil County to Pocomoke Bay, Maryland, in progress	?
Eastern, Boston to Newburyport, in progress	33
Erie and Kalamazoo, Toledo to Adrian, Michigan, in progress	33
Georgia, Augusta, to West Point on Chattahoochy, in progress	200
Harrisburg and Lancaster	37
Hudson and Berkshire, Hudson City to West Stockbridge, in progress	32
Ithaca and Owego, North Branch of Susquehanna to Cayuga Lake	29
Lawrenceburg and Indianapolis, in progress	85
Lexington and Ohio, Lexington to Louisville	80
Long Island, from Brooklyn to Greenport, in progress	98
Mad River, Dayton to Sandusky, in progress	160
Madison and Lafayette, the Ohio to the Wabash in Indiana, in progress	150
Mississippi Natchez through Jackson to Canton, in progress	150
Mohawk and Hudson, Albany to Schenectady	16
Montgomery, Montgomery, Alabama, to West Point, Georgia, in progress	85
Munroe, Macon to Forsyth, Georgia, in progress	25
Newcastle and Frenchtown, Delaware to the Elk	16½
New Orleans and Nashville, in progress	?
New Haven and Hartford, Connecticut, in progress	?
New Jersey, Jersey City to New Brunswick	28
New York and Albany, by West Stockbridge, (projected)	160
New York and Erie, New York City to Lake Erie, in progress	483
Oxford, Coatesville on Columbia Rail-Road, to Port Deposit, in progress	31
Petersburg and Roanoke, Petersburg to Blakely	60
Pensacola and Columbus, Bay of Pensacola to River Chattahoochee, in progress	210
Philadelphia and Trenton	26
Philadelphia and Reading	60
Portsmouth and Roanoke	80
Rensselaer and Saratoga, Troy to Ballston	25
Richmond and Potomac, by Fredericksburg	75
Richmond and Petersburg	21
St. Francisville and Woodville, Mississippi	26
Saratoga and Schenectady	22½
Stonington, Providence to Stonington	48

PROFILES OF CANALS.

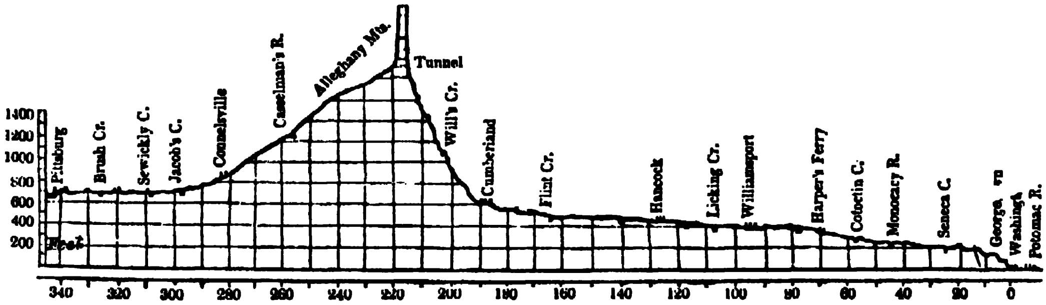
PROFILE OF THE ERIE CANAL.



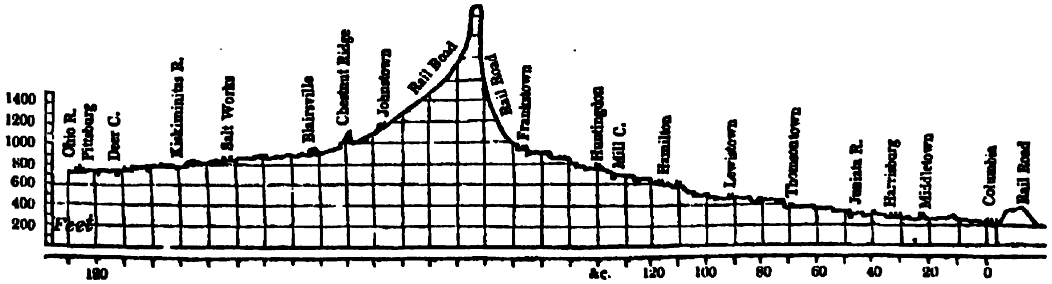
PROFILE OF THE OHIO CANAL.



PROFILE OF THE CHESAPEAKE AND OHIO CANAL.



PROFILE OF THE PENNSYLVANIA CANAL.

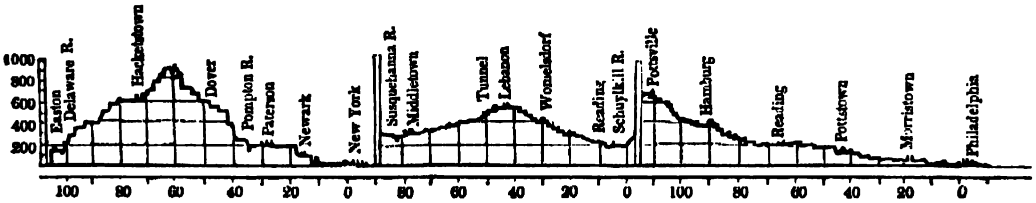


PROFILES OF CANALS AND RAIL-ROADS.

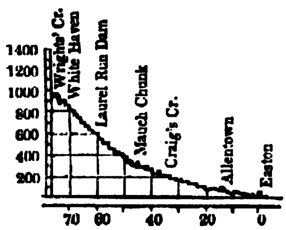
PROFILE OF THE MORRIS CANAL,
NEW JERSEY.

PROFILE OF THE UNION CANAL,
PENNSYLVANIA.

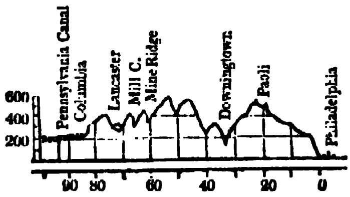
PROFILE OF THE SCHUYLKILL NAVIGATION,
PENNSYLVANIA.



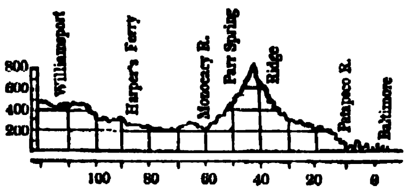
PROFILE OF THE LEHIGH NAVIGATION.



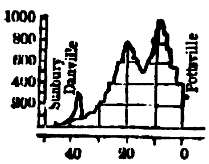
PROFILE OF THE COLUMBIA RAIL-ROAD.



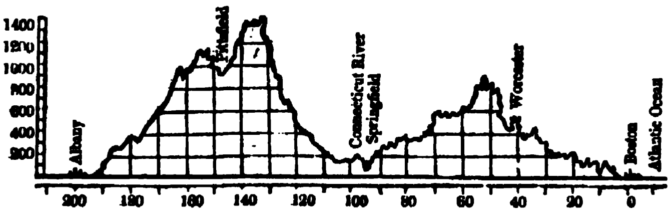
PROFILE OF THE BALTIMORE AND OHIO RAIL-ROAD.



PROFILE OF THE DANVILLE AND POTTSVILLE RAIL-ROAD.



PROFILE OF THE MASSACHUSETTS RAIL-ROAD.



TABLE—*continued.*

	Length—Miles.
Syracuse and Auburn, New York	26
Tonawanda, Rochester to Utica, New York, in progress	34
Tuscumbia and Decatur, round Muscle Shoals, Alabama	45
Utica and Schenectady	84
Vicksburg and Jackson, Jackson to the Mississippi	46
Western, from Boston by Springfield and West Stockbridge, to Albany, in progress	200
Williamsport and Elmira, West Branch of Susquehanna to Tioga, in progress	74
Winchester, Winchester to Potomac	30
Wrightsville and Gettysburg, Columbia to Gettysburg	40

Two great projects, which have occupied the public attention, and have been shown by preliminary reconnoissances to be perfectly practicable, merit notice here, although the time of their completion may be yet somewhat remote. These are, a rail-road from Cincinnati, by Lexington and Knoxville, to Charleston, S. C. a distance of 600 miles; and another from the same place or some point in Georgia to Memphis on the Mississippi, 740 miles. A route from the Penobscot to Quebec has also been surveyed.

The common high roads of the country present a less favourable aspect, and in many sections of the Union roads can hardly be said to exist at all. Yet there are extensive lines of turnpikes constructed in many of the States, and many of the streams are spanned by fine bridges. The Americans were the first to introduce the use of the suspension bridge, which has been borrowed from them in Europe. The great National Road, from Cumberland across the Alleghanies, through Wheeling, Columbus, Indianapolis, and Vandalia, to St Louis, is a fine piece of work, and is rapidly approaching its completion.

Sect. VI.—*Civil and Social State.*

The population of the United States, according to the census of 1830, amounted to 12,866,020; a number not very great absolutely, and even small relatively to the extent of their territory; but astonishing when considered as existing in a region which, 200 years ago, was only a boundless wilderness, peopled by a few scattered bands of savages. But the most interesting circumstance is the rapid increase which has marked, and, according to every appearance, will continue to mark, their progress. Although there has been a constant tide of immigration from the closely peopled European countries, ever since the first settlement of those States, there is no doubt that the growth of this great mass is chiefly owing to the ordinary principle of population, to the means which the human race possesses of multiplying itself, when a check is not presented by the difficulty of subsistence. There are no early enumerations on which much reliance can be placed; but, in 1753, the number was estimated at 1,051,000. A regular decennial census, taken since 1790, gave, at that period, 3,929,827; in 1800, 5,305,925; in 1810, 7,239,814; in 1820, 9,638,131. It is most interesting to consider, as the immensity of unoccupied land leaves full scope for this power of multiplication, how vast the future numbers may be with which this region will be peopled, and which will render it much the greatest state that ever existed in ancient or modern times. It is calculated, upon good grounds, that in a century it will contain 160,000,000; and still, being only half as populous as Britain or France, leave ample scope for future increase. The Americans, should they continue united, would then become the greatest nation in the world; and the most powerful states of Europe would rank as secondary to them.

The population, exclusive of the aboriginal races within the United States' limits, whose numbers are not comprised in the above statements, consists of three classes: whites, free coloured persons, and slaves, whose relative proportions at five different periods are given below.

	Whites.	Slaves.	Free coloured.
1790	3,172,464	697,897	59,465
1800	4,304,489	893,041	108,395
1810	5,862,004	1,191,364	186,446
1820	7,861,710	1,538,038	232,524
1830	10,526,248	2,009,043	319,599

In regard to these numbers it is to be observed that in the census of 1790, are not included the inhabitants of the Mississippi and Northwest Territories, estimated at about 12,000; and that between 1800 and 1810, Louisiana was acquired with about 50,000 inhabitants, and 39,000 Africans were brought into the country. The following statement shows the relative rate of increase of the whole population, and of each of the three classes, in the two periods from 1810 to 1820, and from 1820 to 1830.

	1810—1820.	1820—1830.
Increase of whole population	33.3 per cent.	33.4 per cent.
——— Whites	34	33.9
——— Slaves	28.6	30.6
——— Free Blacks	24.8	37.4
——— Blacks	28.5	31.5

1. *Population of each State according to five Official Enumerations.*

	1790		1800.		1810.		1820.		1830.	
	Total.	Slaves.	Total.	Slaves,	Total.	Slaves.	Total.	Slaves.	Total.	Slaves.
Maine	96,540	....	151,719	....	228,705	....	298,335	....	399,955	
New Hampshire	141,899	158	183,762	8	214,360	....	244,161	....	269,328	
Vermont	85,416	17	154,465	....	217,713	....	235,764	....	280,652	
Massachusetts	378,717	....	423,245	....	472,040	....	523,287	....	610,408	
Rhode Island	69,110	952	69,122	381	77,031	103	83,059	48	97,199	17
Connecticut	238,141	2,759	251,002	951	262,042	310	275,202	97	297,665	25
New York	340,120	21,324	586,786	20,343	959,949	15,017	1,372,812	10,088	1,918,608	75
New Jersey	184,139	11,423	211,949	12,422	249,555	10,851	277,575	7,557	320,823	2,254
Pennsylvania	434,373	3,737	602,365	1,706	810,091	795	1,049,458	211	1,348,233	403
Delaware	59,096	8,887	64,273	6,153	72,674	4,177	72,749	4.509	76,748	3,292
Maryland	319,728	103,036	341.548	105,635	380,546	111,502	407,350	107,398	447,040	102,994
Virginia	748,308	293.427	880,200	345.796	974,622	392,518	1,065,379	425.153	1,211,405	469,757
North Carolina	393,751	100.572	478,103	133,296	555,500	168,824	638,829	205.017	737,987	245,601
South Carolina	249,073	107,094	345,591	146,151	415,115	196,365	502,741	258,475	581,185	315,401
Georgia	82,548	29,264	162,101	59,404	252,433	105,218	340,987	149,656	516,823	217,531
Alabama	....	....	8,850	3,489	40,352	17,088	127,901	41,879	309,527	117,549
Mississippi	....	....					75,448	32,814	136,621	65,659
Louisiana	....	....	....	....	76,556	34,660	153,407	69,064	215,739	109,588
Tennessee	35,791	3,417	105,602	13,584	261,727	44,535	422,813	80,107	681,904	141,603
Kentucky	73,077	11,830	220,955	40,343	406,511	80,561	564,317	126,732	687,917	165,213
Ohio	....	....	45,365	....	230,760	....	581,434	....	937,903	
Indiana	....	....	4,875	135	24,520	237	147,178	190	343,031	
Illinois	....	....	....	....	12,282	168	55,211	917	157,455	
Missouri	....	....	....	....	20,845	3,011	66,586	10,222	140,445	25,081
District of Columbia	....	....	14,093	3,244	24,023	5,395	33,039	6,377	39,834	6,119
Florida Territory	....	....	....	....	....	....	....	....	34,730	15,501
Michigan Territory	....	....	....	....	4,762	24	8,896	....	36,629	
Arkansas Territory	....	....	....	....	....	....	14,273	1.617	30,388	4,576
Totals	3,929,827	679,897	5,305,925	893,041	7,239,814	1,191,364	9,638,131	1,538,038	12,866,020	2,009,043

2. *Ages, &c. of the different Classes of the Population.*

FREE WHITE POPULATION.		
	Males.	Females.
Under 5 years of age	972,980	921,934
Of 5 to 10	782,075	750,074
10 to 15	669,734	638,856
15 to 20	573,196	596,254
20 to 30	956,487	918,411
30 to 40	592,535	555,531
40 to 50	367,840	356,046
50 to 60	229,284	223,504
60 to 70	135,082	131,307
70 to 80	57,772	58,336
80 to 90	15,806	17,434
90 to 100	2,041	2,523
Upwards of 100	301	238
Totals	5,355,133	5,171,115

COLOURED POPULATION.				
	Free Males.	Free Females.	Male Slaves.	Female Slaves.
Under 10	48,675	47,329	353,498	347,665
Of 10 to 24	43,079	48,138	312,567	308,770
24 to 36	27,650	32,541	185,585	185,786
36 to 55	22,271	24,327	118,880	111,887
55 to 100	11,509	13,425	41,545	41,436
Upwards of 100	269	386	748	676
Totals	153,453	166,146	1,012,823	996,220

	Blind.	Deaf and Dumb.
Whites	3,974	5,363
Blacks	1,470	743
Totals	5,444	6,106

Although collected from several nations of Europe, and in many cases retaining much of the original stamp, the Americans have a strong national feeling, and, with some few exceptions, the German, English, Irish, Scotch, and French immigrants soon lose their national peculiarities and character, by intermarriages and a common education. The Germans in Pennsylvania form, however, a large community, occupying most of the State on the east of the mountains, which has clung with great tenacity to the language and habits of its Fatherland, but which of late has yielded something to the spirit of the times. The French in Louisiana are also numerous, retaining the language and much of the character of their mother country. There are also smaller bodies of French in Missouri, Illinois, and Michigan, of Swiss and Germans in Ohio and Indiana, and of Dutch in New York.

"The United States," says a very clever English writer, "were colonized a century later than Spanish America; but their brilliant and rapid progress shows, in a striking light, how much more the prosperity of nations depends on moral than on physical advantages. The North Americans had no gold mines, and a territory of only indifferent fertility, covered with impenetrable woods: but they brought with them intelligence, industry, a love of freedom, habits of order, and a pure and severe morality. Armed with these gifts of the soul, they have converted the wilderness into a land teeming with life, and smiling with plenty; and they have built up a social system, so pre-eminently calculated to promote the happiness and moral improvement of mankind, that it has truly become the envy of nations. The characteristic facts in their condition are the non-existence of tithes, of privileged classes, of corporations in our sense of the term, of a landed aristocracy, of mendicity except to a very limited extent, and of an endowed church: the cheapness and efficiency of the government, the universality of education, the omnipresence of its periodical press, the high feeling of self-respect which exists in the very humblest classes, and the boundless spirit of enterprise which pervades society from top to bottom. The higher classes are less polished than in England, the middle are, perhaps, less carefully instructed; but the American people, taken collectively, are better educated, and have more intelligence and manliness of character, than any other nation in the world."

The black population of the United States, in which are included not only the negroes, but the mulatto breeds, forms rather more than one-sixth of the whole population of the country. We have no means of determining the relative proportion of the mixed and pure coloured races, and practically speaking there is no distinction made between them. The free blacks are not generally admitted to political privileges, though some States furnish exceptions to this remark: in some States, their testimony is not admitted against a white man, and they are subject to some other civil disabilities.

Slavery has been abolished in the Eastern States, and prospectively in New York, Pennsylvania, and New Jersey, and has never been permitted in the Northwestern States. By the laws of Pennsylvania all persons born within that State since 1780 are free, but the children of a slave are subject to a limited servitude to her owner. In New Jersey every child born in the State after July 4, 1804, is declared to be free, and the traffic in slaves between that and other States was prohibited in 1798. The revised laws of New York declare that every person born in that State is free, and that all persons brought into the State, except for a limited period, become free; and no person can sell any other person in that State. Provision is, however, made in these and the other non-slaveholding States for the delivery of runaway slaves from the other States. The Ordinance for the Government of the Territory North-west of the river Ohio, passed in 1787, prohibits forever the introduction of slavery into that tract of country, in which four States have already been formed, with this prohibition incorporated in their constitutions. The introduction of slaves from abroad was prohibited by Virginia in 1798, and by Congress into Mississippi territory in the same year. In 1808, the importation of slaves into the United States was forbidden, and it is believed that the number since clandestinely introduced into the country has been very small. Slavery may be said to exist in thirteen States, Delaware, Maryland, Missouri, Arkansas, and all the States south of the Potomac and the Ohio. The slaves form rather more than one-third of the whole population, in the States in which the institution exists, but, they are unequally distributed, although the white population generally predominates. In Missouri, Tennessee, and Kentucky, the whites are to the slaves in the proportion of about 4 to 1; in Maryland of about 3 to 1; in North Carolina of about 2 to 1, and in Virginia rather less; in Georgia, Alabama, and Mississippi, the whites are a little superior, and in South Carolina and Louisiana a little inferior, in number to the slaves. Louisiana and other States have prohibited the introduction of slaves from the other States, except by an immigrant proprietor; but there is an active traffic in slaves carried on between the different States, consisting chiefly in the exportation from the worn-out tracts of more northern and eastern to the new cotton lands of the southern districts.

In the slaveholding States, slaves are chattels personal, except in Louisiana, and with certain qualifications may be sold to pay the debts and bequests of their master. Slavery is hereditary, and the servitude of the mother determines that of the child; when a coloured person claims to be a free man, the burden of proof is thrown upon him, his colour being, a priori, a sufficient indication of slavery. The life and person of the slave are protected by law under the same penalties as those of whites, but the master or overseer may punish minor offences by flogging; for greater offences the slaves are tried by justices of the peace and from two to five freeholders. The slave can make no contracts, nor can he legally hold any property; the instruction of slaves is prohibited by law, but they often receive some education from the members of the family, and they are generally allowed to attend public worship, which must be conducted by a white. There are in all the States restraints upon manumission, as a population of free blacks is felt to be dangerous to the subordination of the slaves. Although some of the laws relating to slaves are severe, it is to be observed that many of these are not enforced, or are of very rare application. There are various laws restraining cruel punishments or tasks, and prescribing suitable food and clothing for the slaves; but their best security is in the force of custom and public opinion, and in the humanity and interest of their masters. They are, in general, humanely and even kindly treated, well fed, and lightly worked; they are commonly allowed a little patch of ground to cultivate for their own benefit; they may raise poultry and hogs, which, with the produce of their farm, they may sell to the family or elsewhere, at their option; in this way they often acquire a little property, or expend their earnings in ornaments. It is a sufficient proof of their general ease in this country, that their numbers have increased with amazing rapidity, and that many of them live to a great age. "All those," says Paulding, "who have visited the States in which slavery prevails, whatever may have been their previous impressions of the horrors of that condition, must have been struck with the uniform hilarity and cheerfulness which prevail among the blacks. Labouring generally in large numbers together, they partake of the influence which companionship always exercises over man, the most social of all beings. In the meadows and harvest-fields they lighten their labours by songs, the measures of which accord with the strokes of the cradle and scythe; and in whatever employment they may be associated, they are always joking, quizzing, or bantering each other. The children enjoy a life of perfect ease, and are maintained by the products of the land which belong to them and theirs. The parents, being freed from all anxiety or exertion for the present or future support of their offspring, are never beset by the gnawing cares of the free white man, whose whole life is one continued effort to provide for himself and his children. The aged and infirm are also taken care of by the master, either from the dictates of his own humanity, or the obligation imposed on him by law."

The slaves do not work on Sundays, and they have generally several days at Christmas, Easter, and Whitsuntide, and often other holydays. The usual hours of labour are from sunrise to sunset, with about two or three hours intermission at breakfast and dinner, according to the season and the nature of the work; they frequently gain a day by doing the task of three days in two, and women with a certain number of children are allowed some further indulgences. Their food and clothing vary in different sections of the country, but they generally receive from nine to twelve quarts of Indian corn a week, with bacon and salt fish; instead of the corn, a bushel of sweet potatoes or two pecks of paddy are given by way of change, and on the rice plantations rice is the principal article of food. For clothing each man receives six or seven yards of woollen cloth, each woman five or six, and the children in proportion; a new blanket is given to each grown person, and one for every two children once in two years, and in winter a handkerchief is given to the women and a cap to the men. A suit of cotton or linen clothes is also allowed in summer. On every plantation there is a nurse, and the overseer has a chest of medicines. The marriages of the slaves are merely a connection subsisting during pleasure; their amusements are chiefly music and dancing, many of them being able to play and sing in a rude manner.

In religion, the Americans have adopted the novel system of cutting off all connection between Church and State. Individuals, or classes of believers, choose their own religious guide, and provide entirely for his support. This general equality of sects is found to abate religious animosity, without relaxing zeal. In the large towns, particularly of the Northern States, the clergy are sufficiently numerous and well provided for; but in some of the remote country districts there is a great deficiency of spiritual teachers. The Americans are decidedly a religious people, and, although some fanatical sects have sprung up in the United States, it may be affirmed, with truth, that they are equally removed from the excesses of fanaticism and irreligion. Travellers bear testimony to the sound spirit of morals which prevails in the country, and to the respect paid to the public services of religion. The most numerous sects are the Methodists, chiefly in the Southern and Western States; the Baptists, numerous and rapidly increasing in all parts of the Union; the Presbyterians, mostly in the Middle States, but also numerous in the Southern and Western; and the Congregationalists chiefly confined to New England. The following table, from the American Almanac for 1836, gives further details on this subject:—

Denominations.	Ministers.	Churches.	Communicants.
Methodist Episcopal Church	2,458	.....	638,784
Methodist Protestants	70	.....	30,000
Calvinistic	3,110	5,888	384,859
Free Will	342	546	25,276
Seventh Day	32	32	4,258
Six Principle } Baptists	12	23	2,137
Christians	300	1,000	30,000
Mennonites	200	.....	30,000
Tunkers	40	40	3,000
Presbyterians (General Assembly)	1,914	2,648	247,964
Associate Presbyterians	70	169	12,886
Cumberland Presbyterians	400	.....	60,000
Dutch Reformed	167	197	22,515
German Reformed	186	600	30,000
Associate Reformed	43	100	10,000
Congregationalists (Orthodox)	975	1,071	129,756
Congregationalists (Unitarian)	165	187	....
Protestant Episcopal Church	701	800	....
Roman Catholic Church	340	383	....
Universalists	300	600	....
Evangelical Lutheran Church	191	627	59,787
United Brethren, or Moravians	33	24	2,000
New Jerusalem Church	33	27	....
Friends	.....	500	....
Shakers, or Millennial Church	45	15	....
Totals,	12,130	15,477	1,423,222

"This table," says the editor of the Almanac, "is incomplete; the Congregationalists here enumerated all belong to New England, but there is a considerable number in other States; in addition to the 1914 ministers of the Presbyterians, there were 420 licentiates and candidates; the numbers of the Associate Reformed Church above given, all belong to the Synod of the West, and there are two other Synods not enumerated; in addition to the travelling preachers of the Methodists given above, there is a great number of local preachers; their congregations are supposed to be about 5000."

The English have been justly characterised as an eminently humane people, and their American descendants have not lost this noble trait of the British character. The number of benevolent and charitable institutions, of societies for the relief of the poor and the suffering, for the education and support of destitute children, for the instruction and reform of the once outcast convict, for the diffusion of good morals and religious instruction among the once neglected classes of society, and for the spread of Christian knowledge in heathen lands, and, it may be said without exaggeration, for every humane purpose, is nowhere greater than in this country. Hence the hospitals, the poorhouses, the orphan asylums, the madhouses, the penitentiaries that have been studied by the nations of Europe, the institutions for the deaf and the blind, the Bible and Missionary Societies, the Saving Institutions, the Dispensaries, the Education Societies, &c. which are found in every section of our land. We shall here mention a few of these institutions of general interest, taking our statements chiefly from a paper in the American Almanac for the year 1836. The American Board of Commissioners for Foreign Missions, instituted in 1810, has its seat in Boston; its receipts during eleven months of 1835 amounted to 163,340 dollars; since its formation they have exceeded 1,600,000 dollars. In 1835 the number of stations was 78, connected with which were 308 missionaries and assistants, and 55 native assistants. There were in the schools 21,181 pupils, and 94,000,000 pages had been printed at the eight printing establishments of the society, in nineteen languages; seven of which had been reduced to writing by the missionaries. The Baptist Convention for Foreign Missions, constituted at Philadelphia in 1814, had in 1835 25 stations, twelve of which were among the American Indians; 103 missionaries and assistants; five printing presses, from which publications were issued in seven languages, and about 600 pupils in its schools; receipts for 1835, 58,520 dollars. The Missionary Society of the Methodist Episcopal Church, established at New York in 1819, supported in 1835 144 missionaries, in Liberia, among the American Indians, and in the United States, at an expense of 38,350 dollars. The Home Missionary Society, instituted in New York in 1826, for the purpose of assisting poor congregations, and sending the gospel to the destitute within the United States, employed, in 1835, 719 missionaries, and had in their Sunday Schools and Bible Classes 52,000 pupils; receipts for the year, 88,863 dollars. The Baptist Home Missionary Society, founded at New York in 1833, had in its service in 1835, 93 missionaries in the United States and Canada. There are several other foreign and domestic missionary societies, whose means are less ample and whose sphere of action is more local. The American Bible Society, formed in 1816, have issued to the poor at home and to the destitute abroad, 1,767,936 copies of Bibles and Testaments; they print Bibles in the English, French, Spanish, Greek, Armenian, and some of the Indian languages, and purchase and issue copies in other languages; they also grant large sums to other societies; total expenditures 1,404,000 dollars; the seat of the Society is in New York. The American Tract Society, instituted at New York in 1825, for the purpose of distributing religious tracts, circulated, in 1834, 54,316,358 pages; receipts for the year 92,307 dollars, since its establishment upwards of 532,000 dollars. The American Education Society, established at Boston in 1815, assists pious young men of seven religious denominations in obtaining an education, by lending them a certain sum, to be repaid at a future period; receipts during 1835, 83,063 dollars; young men aided, 1,040; whole number assisted, 2,258; the Society publish a valuable journal. The Sunday School Union, formed at Philadelphia in 1824, for the establishment and support of Sunday Schools, and the distribution of the Society's publications, consists of the union of nine or ten religious denominations; there were connected with it in 1835 16,000 schools, 115,000 teachers, and 800,000 pupils; receipts for the year 1835, 136,885 dollars. The Society for alleviating the Miseries of Public Prisons, organized in Philadelphia in 1787, has not confined its labours to the relief of the sufferings of prisoners, but has successfully exerted itself in reforming the penal laws of the State and the discipline of prisons throughout the country. The Prison Discipline Society, formed in Boston in 1825, has laboured in the same benevolent cause. The American Temperance Society was formed in Boston in 1826, for the suppression of intemperance, by discountenancing the use of ardent spirits; in 1835 the number of auxiliary societies was 8000, embracing 1,500,000 members; above 4000 distilleries had been stopped in the country, 8000 traders had ceased to sell ardent spirits, and 1200 vessels sailed without using them. The American Colonization Society, founded at Washington in 1816, is designed to transport free persons of colour and manumitted slaves to Liberia, and thus forward the work of emancipation in this country.

In regard to education, great exertions have been made in many of the States, and in some with complete success, to furnish the whole community with instruction at the common expense, and, with the exception of Prussia, there is no country where the mass of the people is so well educated as in some parts of the Union. The general government have made ample provision for educational institutions in the new States, by reserving one section in each township for the support of schools, and making liberal grants of land for the establishment of colleges; but in the old States the provisions for this object have been left to the State governments.' The New England system of free schools is one of the most remarkable features of that section of the country. The principle on which it is founded, is, that elementary instruction should be so free as to exclude none from its benefits, and the schools should be so numerous as to be within the easy reach of all; at the same time that their management should be left chiefly to the people themselves in small districts, so as to excite a general interest in them. The tax for the support of these schools is levied on property, in order that the poorer classes may not be too heavily burdened with it; every individual in the community may not only learn to read and write, but may become acquainted with arithmetic, geography and history, and in the larger towns with the principles of natural science and the learned languages, free of expense. Some of the States have school funds, the income of which is distributed among the towns, in proportion to the number of children in the schools. Public aid is also given to the higher schools, called academies, and to the colleges, for the purpose of rendering the course of study more extensive and lessening the expense of attendance at them. In New York a similar system has been introduced, and from official reports it appears that, in 1834, there were 541,401 children attending the common schools in that State, and that the amount paid for teachers' wages was 732,000 dollars; provision has also recently been made there for the education of common school teachers. In New Jersey, Pennsylvania, Ohio, Maryland, Virginia, South Carolina, Tennessee, Kentucky, and some other States, effectual measures have also been taken for the encouragement and support of free schools, and in several of these States they already afford ample means of primary instruction.

The higher branches of knowledge are taught in numerous academies and lyceums, in which the study of mathematics, natural history and philosophy, and the learned and foreign modern languages, is sometimes combined with instruction in the useful arts, as agriculture, civil engineering, &c. The colleges and universities carry on the course of study commenced in the schools and academies, while in the medical, law, and theological schools, those destined for the learned professions have an opportunity of preparing themselves for their respective occupations. The number of colleges in the United States is 68; of medical schools 23; of law schools 9; of theological seminaries 37. The country does not yet, however, furnish the scholar with those facilities for a finished learned education which are afforded by the scientific and literary establishments of Europe, and the want of good libraries is sensibly felt by every one who has attempted much learned research. The largest collection of books in the United States does not contain 50,000 volumes, and there are few which even approach that number. The Philadelphia Library has 42,000 volumes; the Cambridge University Library about the same number; the Boston Athenæum 30,000; the New York Society Library 22,000; and the Library of Congress 20,000.

Literature and science are of but recent origin, yet they have already made rapid progress, and America has already produced some works that take their place among the classic compositions of the old world. The reputation of Irving, Channing, and Cooper is not confined by the Atlantic, and several other writers have produced works of merit in the different branches of elegant literature. Some valuable contributions have also been made by the Americans to theology, jurisprudence, medicine, and natural science. Learned societies have been instituted, and some of them have published several volumes of their Transactions. Numerous monthly and quarterly journals are supported in the country, and the best English periodicals are regularly republished. The current English literature of the day is also immediately distributed throughout the United States in various forms and at an amazingly cheap rate, and there are numerous American reprints of the most valuable English classics. One of the characteristics of the United States is the astonishing number of newspapers, representing almost every political, social, industrial, moral, and religious interest that occupies the attention of the community. Their number is nearly 1300. We may mention in this connection, that both the federal government and the States have made some important additions to geographical science, through the agency of several exploring and surveying expeditions, got up at the public cost. After the purchase of Louisiana, in 1803, an exploring expedition was sent up the Missouri under the command of Lewis and Clarke, which, after ascending that river about 2500 miles, crossed the Rocky Mountains and descended the Columbia to the sea. This occupied nearly two years and a half, from May 1804 to September 1806, and made us acquainted with the course of the Missouri and the Columbia, with the natural features of the Rocky Mountains, and with the names, numbers and condition of many Indian tribes. In 1805 Pike was sent to examine the Upper Mississippi, and in 1806 to explore the great region between the Mississippi and the Rocky Mountains; in this latter expedition, the Osage, Arkansas, Platte, Kansas, and Rio del Norte, were either discovered, or their sources and course were ascertained with greater precision than had previously been attained. Two expeditions under Col. Long, the first to the foot of the Rocky Mountains, in 1819, and the second to the St. Peter's River, in 1823, made some new discoveries, and re-examined in a more scientific manner some regions before explored. In 1836 an appropriation was made by Congress for an expedition to explore the Southern Ocean.

North Carolina, South Carolina, Tennessee, Maryland, Massachusetts, New Jersey, Virginia, Connecticut, New York, Pennsylvania, Ohio, and Maine have already executed, or have now on foot, examinations of their respective territories, which will furnish important contributions to science, while they serve to develope the natural resources of the country. Some of these examinations are confined to geological surveys, but others comprise trigonometrical measurements of the surface, and a complete natural history of the territory. Several valuable reports of the doings of these boards are now before the public. Of a similar nature is the general survey of the coast by the federal government, now in progress.

The Americans have been eminent for mechanical inventions, of which the steam-vessel, by them first applied, at least, to practical purposes, is a conspicuous example. The cotton-gin of Whitney may almost rank with it in value. Many improvements in the machinery for the manufacture of cotton have been already introduced from America into Europe, and that of the woollen-mills of this country is much superior to any thing applied to the same purpose elsewhere. The whole number of patents issued from the patent-office since 1790, is 9730 ; from 1790 to 1800, the annual average was only 26; from 1820 to 1830, it had increased to 535.

In the fine arts the Americans have shown a very strong natural genius for painting, though their artists have been obliged to resort to the Old World for study, and often, also, for patronage; institutions for the encouragement of the art are now, however, formed in the principal cities of the Union. The names of Copley, West, Stuart, Newton, Allston, and Leslie, adorn the short annals of American art.

Sect. VII.—*Aboriginal Tribes.*

The aboriginal population of the country now forming the United States, instead of being merged into the European stock which settled among them, have wasted away, and in most of the States east of the Mississippi become quite extinct. Incessant wars with the whites, too often provoked by the cupidity of the latter; the gradual destruction of the game on which they depended for subsistence; and the vicious habits in which their vicinity to civilised man enabled them to indulge, combined to lessen their numbers, until the numerous tribes that once occupied all the openings in the great primitive American forest, have actually died out, or been reduced to a few miserable individuals. From the Roanoke to the St. Lawrence, the only surviving remnant of the proud and warlike Iroquois tribes, and of the once powerful Algonquins, is about 8,000 men, women, and children, in New England and New York, and about 50 more in Virginia. Further south, but much narrowed in their limits, some portions of the Cherokees, Creeks, and Chickasaws, are yet permitted to linger for a while in the land of their birth. The Choctaws and the Natchez have disappeared. From the Tennessee to the Lakes, and from the Desmoines to the Gulf of Mexico, scarcely a drop of Indian blood remains within the limits of the States. Beyond Lake Michigan, on the Upper Mississippi, on the Missouri beyond the limits of the State of the same name, and on the upper part of the Arkansas and Red Rivers, the country is almost wholly occupied by the aboriginal race.

The whole of the region between the Atlantic and the Rocky Mountains, and between the Gulf of Mexico and Hudson's Bay, appears to have been divided among five great nations or families of tribes; the Algonquin or Chippewa; the Huron or Wyandot; the Floridian; the Sioux or Dahcotah; and the Pawnee. Each of these families comprised many independent and often hostile nations, which, however, are proved to have spoken cognate dialects, and, therefore, to have sprung from a common stock. The New York Indians, comprising the remnant of the celebrated Five Nations, namely, Senecas, Cayugas, Oneidas, and Onondagas, to whom are now joined some Delawares, Mohecans, and Narragansetts, and the Tuscaroras, of a different origin, belong to the second of these families, as do also the Wyandots, some of whom still remain within the limits of Ohio. The whole number of the former does not exceed 4176 souls, of whom more than one-half are Senecas. The Tuscaroras removed from North Carolina in the beginning of the last century; and, joining the confederacy called by the French the Iroquois, by the Dutch the Maquas, and by the English the Five Nations, caused it to receive the new name of Six Nations, descriptive of the number of the confederated tribes. The Mohawks, the head of these Romans of the New World, as they have been called on account of their warlike spirit and extensive conquests, removed to Canada in 1776, and were followed by a portion of the Cayugas;—but these once powerful nations have now dwindled to an insignificant band. The other tribes above mentioned removed more recently; the Delawares from Pennsylvania, and the Mohecans and Narragansetts from Massachusetts. These Indians have long enjoyed the benefit of religious instruction by Christian Missionaries, and they are, in general, provided with schools, agricultural implements, comfortable dwellings, and clothes, but they make little progress in European manners and civilisation. The Wyandots, to the number of 575, occupy the plains about the head of the Sandusky River with their herds.

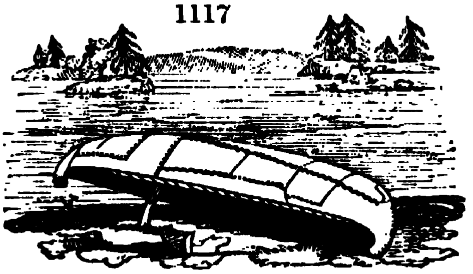
The Algonquin race once possessed all the country between the Tennessee and Roanoke, and the St. Lawrence and the Lakes, and even much farther north, with the exception of the comparatively small enclosed tract, inhabited by the Huron nations. At present, about 379 Passamaquoddies, on Schoodic River, in the eastern part of Maine; 280 Penobscots near Bangor; 750 individuals of a mongrel stock of Indian and Negro breeds in the south-east part of Massachusetts; 420 Narragansetts in Rhode Island, also much mixed with blacks; 300 Mohecans near Norwich, and 100 Pequods near Stonington in Connecticut, with 300 Narragansetts, Delawares, and Mohecans in New York, and about 50 Nottaways in Virginia, are the sole relics of their once numerous tribes, east of the Mississippi and south of the Maumee. The only vestige of their existence left by these extinct nations, is in their names of the physical features of the country. The Algonquin language is still spoken by the Chippewas or Ojibwas, Ottawas, Pottawatamies, Sacs and Foxes, Shawnese, Kickapoos, Menomonies, Miamis, and Lenni Lenapes or Delawares. The Miamis reside in the northern part of the State of Ohio, occupying the Sandusky plains on the head of the Sandusky River; their number is 1100. The Delawares, to the number of 826; the Kickapoos, amounting to 588; and the Shawnese, celebrated as the tribe of Tecumseh and his brother Elsquataway, the Prophet, have removed to the Indian District west of Arkansas;—the latter number about 1250 souls. The Pottawatamies, Ottawas, and Chippewas of the peninsula of Michigan and the northern part of Indiana, are very closely allied in habits, manners, and language, and some of them have also united in forming a confederacy. The Ottawas have, however, made more progress in agriculture than the kindred tribes.

The country north of Lake Michigan to the Red River is inhabited by scattered bands of Chippewas, who depend for subsistence chiefly upon the wild rice of the innumerable lakes of that region, and the small game and fish in which it abounds. Such, however, is their indolence, and so precarious is the supply from these sources, that they often suffer severely from scarcity and famine, and much of their time is spent in wandering from spot to spot, in search of the food, which might be plentifully and readily procured by a little industry and forethought. The Wild Rice (*Zizania aquatica*) is collected by merely pushing a canoe into the lake or stream in which it grows, bending the stem over the boats, and thrashing out the seeds with a pole; it is afterwards dried over a slow fire, hulled by trampling it under the feet, and winnowed by exposure to the wind. The Ojibwas are said to be the only tribes who do not use salt. They make cabins (*fig.* 1116.) and boats (*fig.* 1117.) of birch bark, but they have little mechanical ingenuity, and their ornaments consist merely of beads, paints, and other trifles bought of the traders. The number of these Indians is about 8500; that of those in the peninsula of Michigan and Indiana, nearly 9000.

1116

Birch Bark Lodge.

1117



Birch Bark Canoe

The Menomonies are another Algonquin nation, living about Green Bay, and the heads of Fox, Wisconsin, and Menomonie Rivers; their number is 4200. They are much superior to the Ojibwas in mechanical ingenuity, and they prepare belts, moccasins, sheaths, &c. very neatly, ornamented with beads and porcupine quills.

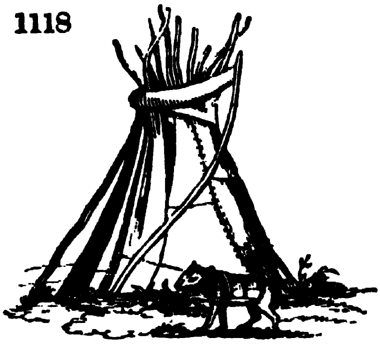
The confederated tribes of the Sacs and Foxes, or Ottogamies, who have long been distinguished for their daring and restless spirit, fought their way from the shores of Lake Ontario to the Mississippi, beyond which they have lately been driven, first by the combined Chippewa forces, and more recently by the American troops. In the beginning of the last century they made a desperate effort to seize the French post at Detroit, and they continued to give the French colonists much trouble for a period of nearly 50 years after that attempt. Their numbers, which were at one time very much reduced, have been gradually increased by the policy of adopting their prisoners of war, and receiving seceders from other tribes, and at present they amount to 6500 individuals, residing on both banks of the River Desmoines.

It is the remark of one well acquainted with the aboriginal tribes from personal observation, that their unrecorded traditions referring to events beyond the beginning of the last century, are entitled to no confidence; even the names which they bestowed upon themselves afford no clue to their early history, but were, as at this day, mostly purely accidental. And another writer, who has had equal opportunities for observing, and has shown not less diligence in studying the Indian character, declares, that their legendary tales are unworthy of credit, and mostly invented to satisfy the inquiries of the white man. Our only accounts of their religious notions are generally drawn from half-breeds, who may be suspected of mingling European speculations with the vague and confused ideas of the Indians, or from the converted and semi-civilised natives, who fill up the voids in their own imperfect traditions with borrowed lore. From all we can learn, however, it appears that the Algonquin nations believe in the existence of a Supreme Creator, the Kacha Manito or Good Spirit, of an Evil Spirit or Malcha Manito, and of other inferior spirits, whose favour they seek to obtain by certain ceremonies, and sometimes by sacrifices and offerings. They also have some notions of a future life, in which the good spend their time in hunting and mirth, and the bad in hard labour. They have sorcerers, whose spells are highly esteemed for the cure of diseases, and for luck in their enterprises, and their medicine-bags or charms are carefully worn about the person or hung up in the lodge. For the cure of diseases, they practise bleeding, use the steam-bath, employ various decoctions and roots, and trust much to the efficacy of songs, dances, and other ceremonies performed under the direction of the medicine-men. All of this race have long been in contact with the whites, who have been among them either as enemies, traders, or religious instructers, and they have, therefore, more or less lost their distinctive traits. Polygamy seems to prevail among them, limited only by the inclination or means of the individual. Cannibalism was also once practised by all of this race. A singular institution still existing among them, and probably peculiar to them, is the totem or family badge, consisting of some object, sometimes an animal, sometimes an inanimate thing, adopted by each family as its symbol and protector, and constantly worn as a medicine or spell. The Algonquins have the art of conveying information by means of a rude sort of picture-writing; thus, by figures cut or painted upon a skin, a rock, or a piece of bark, they are able to indicate to the absent their route, their numbers, the character of the persons composing their party, and the incidents that have occurred on the way; they can even describe a battle or a council with tolerable minuteness in this manner. They have drums, flageolets, and rattles, to accompany their dances and religious rites; and Schoolcraft gives some specimens of their songs and tales.

The family of Sioux languages is to the west of the Mississippi, what the Algonquin is to the east of that river; nearly the whole of the region from the Mississippi to the Rocky Mountains, and from the Arkansas to the head waters of the Missouri, being inhabited by more or less closely affiliated nations. Beside the Quapaws, Osages, Kanzas, Mahas, Poncas, Ioways, Ottoes, Missouries, and Winnebagoes, the Shiennes, Crows or Upsarokas, Minnetarees, Mandans, and Blackfeet, also belong to this stock.

The Sioux, Dahcotahs, or Naudowessies, occupying the country between the Upper Mississippi and the Upper Missouri, are one of the most numerous and powerful of the Indian nations of the United States. The term Dahcotah signifies confederate, the nation consisting of seven confederated tribes, whose number is estimated at 27,500, exclusive of 8000 Assinaboins, Hohays, or Stone Indians, who live west of Lake Winnipeg. A Sioux Helen caused the separation of the latter from the body of their countrymen. Ozalapaila, the wife of one of the chiefs, having been carried off by another leading warrior of the same tribe, and the husband and brothers of the woman having been slain in the attempt to recover her, the quarrel gradually extended from the friends of the two parties to the whole nation, and ended in a fierce civil war. After a long and bloody struggle, the seducer and his friends finally renounced their allegiance to the confederacy and retired to the north; but the divided members have been almost continually in a state of hostility with each other. The Dahcotahs believe in the existence of a Master of Life, or Great Spirit, whom they call Wahkan Tanka, and of numerous subordinate spirits, among whom the Wahkan Shecha, or Evil Spirit, and the Thunder, are the principal; to all of these they make offerings. They have the same rude notions about a future life as the Algonquin tribes; polygamy also prevails among them; but they seem to have always been free from the guilt of cannibalism. They live chiefly in the prairies, making lodges of buffalo-skin (*fig.* 1118.), and employing dogs to carry burdens; they raise some maize, pumpkins, and beans; the flesh of the dog is considered by them a great delicacy, and a feast of dog's-meat is the greatest mark of attention they can pay a stranger. The accompanying cut (*fig.* 1119.) represents a Dahcotah chief and his son; the former has a cloak of buffalo-skin, dressed white, and decorated with feathers of various colours; a necklace of the claws of the grisly bear; leggins of white skins, ornamented with tufts of human hair; moccasins of the same material, adorned with feathers, and a fan of wild-turkey feathers in his hand; on his head are nine smooth sticks painted with vermilion, indicating the number of wounds he has received. The son has a headdress of the feathers of the war eagle. The Winnebagoes are the only nation of this family who reside east of the Mississippi; they are about 4500 in number, and live in Wisconsin Territory, north of the river of the name.

1118



Indian Skin Lodge.

1119

Sioux Chief and his Son.

The Shiennes, consisting of 2000 souls; the Mandans of 15,000; the Minnetarees of 15,000, and the Blackfeet Indians, inhabit the country on the Upper Missouri and between the river and the Rocky Mountains. Between the Platte and the Missouri, near their junction, are the Mahas or Omawhaws to the number of 1400. The Ottoes on the south of the Platte, 1600, and the Kanzas, or Konzas, and Osages, further south, the former consisting of 1470, and the latter of 5120 individuals, are very nearly allied to the Omawhaws. They dwell in permanent lodges composed of poles fastened in the ground and converging at top, interwoven with bushes and small branches of trees, and covered with earth. These lodges are often sixty feet in diameter and twenty high, and are lighted only by a hole through which the smoke escapes at the top; the roof, being too heavy to be supported by the poles which form the frame, is propped up by trunks of trees ranged round the inside, like so many columns. The nations here alluded to have droves of horses, they raise maize, beans, pumpkins and watermelons, and, like the more northern tribes, use the dog for carrying burdens. They are tall, well made, and warlike, but not so ferocious and cruel as many of their neighbours. Some of them have names for several of the most striking stars, or groups of stars, as the pole star, the planet Venus, the Pleiades, &c., and they practise the same sort of picture-writing that is used by the Algonquin tribes.

The more southern Indians, from the Arkansas to the Del Norte, inhabiting a country similar in its physical features to that of the Missouri nations, resemble the tribes last described in many of their habits, but seem to belong to a different stock. They are all well mounted and are nomadic in their life, following the buffalo in his annual migrations from south to north, and in his continual roaming in search of new pastures. We are, however, less acquainted with their respective peculiarities than with those of the tribes nearer to the frontier. Horse-stealing is the besetting sin of all the prairie Indians, and is by no means confined to those now under consideration. This family has been called, from its principal nation, the Pawnee, and comprises the Pawnees, living on the river Platte, 10,000 in number; one of the tribes offers a human sacrifice in the spring to the Great Star (Venus); the Shoshonees, inhabiting the Rocky Mountains, 15,000; the Camanches, called also Ietans, or Paducas, 7000; the Kaskaias; the Kioways; the Towash, sometimes called Pawnee Piquas, or Peeks; and to the north of the Platte, the Rickarees, or Arickaras, and Arrapahays. It appears to be still uncertain to what stock the Caddoes, about 2000 strong, belong.

The Floridian family formerly occupied the country south of Virginia and Kentucky; but the Natchez, once so powerful and civilised, are extinct; the Catawbas are reduced to a remnant of 450 souls in South Carolina; the Choctaws have removed to the Indian tract beyond the State of Arkansas, and the only remaining nations are the Cherokees, Creeks, of whom the Seminoles are a branch, and the Chickasaws. All of these nations, from their long connection with the whites, and of late years from their having enjoyed the direct instruction of missionaries, have made much progress in the arts and comforts of civilised life. They have become, more or less generally, cultivators of the soil, and the Cherokees have a newspaper printed in their native language, and in characters invented by one of the nation. The other languages have been reduced to writing by the missionaries, who have published in them various works of devotion and text-books for education. The Cherokees and the Choctaws are the most improved. The number of the former is 18,000, exclusive of 6000 who have removed to the west; of the latter, 15,000, exclusive of about 1200 or 1500 who still linger about their former country. Of the Creeks 3600 have emigrated, and 21,000 still remain in Alabama, but are now on the point of retiring to the west. The Seminoles, or Lower Creeks, living in Florida, are estimated to amount to about 3000. The Chickasaws of Mississippi are 5600. The whole number of Indians east of the Mississippi is about 80,000; between that river and the Rocky Mountains there are about 180,000, of whom 31,350 have emigrated thither from the east, and 150,000 are indigenous tribes.

The relations of the federal government to the Indian nations within its territorial limits, have been of a mixed character; in part assuming the character and language of a superior and protector, yet making treaties with them as independent powers. Those Indians who have remained within the limits of the States have not been considered as citizens of those States, but have been allowed to retain their own government and laws under the protection of treaties made with the general government. Of late years it has been the policy of the United States to persuade them to remove beyond the State boundaries, or to relinquish their independent character and become citizens of the States where they reside. With a view to effect this object, a tract of country lying between the Red River and the Platte, and between Arkansas and Missouri on one side, and Mexico and the Rocky Mountains on the other, has been purchased by the United States, and reserved for the use of the emigrating Indians, who are paid for the lands which they surrender, and are encouraged to hope that in their new country they will be for ever free from the encroachments of the white race. Here they are provided with agricultural implements, live stock, and useful tools, and efforts are made by several missionary societies, with the assistance of government, to establish schools and spread a knowledge of the Christian religion among them. "An extensive country," says the annual report of the Secretary at War, in 1835, "has been reserved for them, and has been divided into districts for the several tribes. To this they are removed at the expense of the United States. They are provided with the necessary subsistence for one year after they reach their new residence. Annuities in specie to a greater or less amount are payable to each tribe. Agricultural implements, domestic animals, seed corn, salt, looms, cards, spinning-wheels, iron, steel, clothes, blankets, rifles, ammunition, and other articles, are distributed among them. Mills are erected and kept in operation; council-houses, churches, and dwelling-houses for the chiefs, are built; mechanics are engaged and supported; schools established and maintained; and the missionary institutions among them are aided from the treasury of the United States. They will be here separated from the settled portions of the country, by a fixed boundary beyond which our population cannot pass." It should be added, that in 1835, besides the annual appropriation of 10,000 dollars for the civilization of the Indians, which is chiefly expended in the support of teachers among them, the United States were paying to different tribes, by treaty stipulations, a yearly sum of 42,000 dollars, solely for purposes of education. There were in 1835 upwards of 1500 Indian children receiving instruction, exclusive of 163 pupils at the Choctaw Academy in Kentucky. In every instance a knowledge of agriculture and of some mechanic art is imparted to the boys, and of household duties and economy to the girls.

The following tables show the number of Indians who had removed to the Western Territory, and the number remaining within the States, in 1836. It is in part a repetition of the statements already made, but exhibits them from a different point of view:—

1. *Number of Indians Emigrated.*

Tribes.	Numbers.	Tribes.	Numbers.
Winnebagoes	700	Delawares	826
Chippewas, Ottawas, and Pottawatamies	1,200	Shawnees	1,250
Pottawatamies, from Indiana	441	Ottawas	200
Choctaws	15,000	Weas	222
Quapaws	300	Piankeshaws	162
Creeks	3,600	Peorias and Kaskaskias	132
Appalachicolas	265	Senecas	251
Cherokees	6,000	Senecas and Shawnees	21
Kickapoos	588	Total	31,348

2. *Number of Indians to be removed.*

Tribes.	Numbers.	Tribes.	Numbers.
New York Indians	4,176	Cherokees	18,000
Ottawas, of Ohio	230	Creeks	21,000
Wyandots	575	Chickasaws	5,600
Pottawatamies, of Indiana	3,000	Seminoles	3,000
Miamies	1,100	Appalachicolas	400
Chippewas, Ottawas, and Pottawatamies	6,400	Chippewas, or Ojibwas	8,350
Winnebagoes	4,500	Total	80,531
Menomonies	4,200		

3. *Number of indigenous Tribes, west of the Mississippi.*

Tribes.	Numbers.	Tribes.	Numbers.
Sioux	27,500	Kanzas	1,471
Ioways	1,200	Omahas	1,400
Sacs and Foxes	6,900	Ottoes and Missouries	1,600
Osages	5,120	Pawnees	10,000

Tribes.	Numbers.	Tribes.	Numbers.
Minnetarees	15,000	Crows	4,500
Assinaboins	8,000	Caddos	2,000
Crees	3,000	Poncas	800
Gros Ventres	3,000	Arickaras	3,000
Camanches	7,000	Shiennes	2,000
Kiowas	1,400	Blackfeet	30,000
Mandans	15,000		
Quapaws	450	Total	150,341

It is remarked by Volney that North America, with the exception of Mexico, presents no vestiges of antiquity, no structure of hewn or sculptured stone, that attests the ancient existence of art among its inhabitants. The only apparent exception to this observation is the numerous works known under the name of mounds and fortifications, which are found scattered over the great Mississippi valley, from the St. Peter's to the delta of the Mississippi, and from the Mohawk and the Kenawha to the plains of the Missouri. The former consist of conical elevations, from a few feet to 20, 30, or 50 feet high, sometimes solitary, sometimes clustered together in great numbers. The latter are oval, circular, square, or polygonal enclosures, often connected by long parallel embankments, and in some instances comprising an extent of from 20 to 30 acres. In general the walls of circumvallation are composed wholly of earth, but sometimes consist partly of stone loosely thrown together, and traces of cement and brick also appear to have been met with in some places. The mounds appear to have been used as places of burial; the enclosures for purposes of defence. The question as to the authors, origin, and objects of these works has, however, given rise to much speculation, and while some look upon them as proofs of the former existence of a more civilised population in this part of the world, others see in them nothing beyond what might have been executed by the naked savages who have possessed these regions ever since they have been known to Europeans, and some geological writers have denied that the mounds were artificial works. We would merely observe that the Indian tribes known to the whites had no traditions concerning the history or uses of these constructions, and leave this subject with the following remarks of two writers whose opinions are entitled to great weight. "Although it may seem arrogant," says Prof. Hitchcock, "in one who has never personally inspected the celebrated mounds of our Western States, so universally regarded as the work of man, I hesitate not to advance the opinion with great confidence, that they are almost universally the results of diluvial and fluviatile action. To say nothing of their great number and size, which would render their construction a work of ages for all the millions of the globe, there is one fact stated by an acute writer, that must put the question at rest. He says that he 'had never examined one that was not composed of different strata of earth, invariably lying horizontally to the very edge of the mound.' (*Illinois Mag.* 1252). Now I take it upon me to say, that it is altogether beyond the art of man to pile up large hills of loam, sand, clay, &c., so as to exhibit the stratified structure here spoken of. These mounds, therefore, scattered as they are in immense numbers over the western regions, are the work of God and not of man. They were either piled up by diluvial action, or they are the remnants of tertiary formations, that have been mostly removed by rains, land-floods, and deluges. That such elevations should have been selected for the habitations, the forts, and the burying-places of the aboriginals, is just what we might expect." (*Report on Geology of Massachusetts.*)

The other passage relative to the ancient fortifications, is from the pen of a writer long officially connected with the aborigines, and to whose opportunities of personal observation has been added a diligent study of whatever has been written by others on this subject. "We have no doubt," he says, "that they were erected by the forefathers of the present Indians, as places of refuge against the incursions of their enemies, and of security for their women and children, when they were compelled to leave them for the duties of the chase. And much of the mystery in which this subject has been involved, owes its origin to a want of due consideration of the circumstances and condition of the Indians. We do not reflect on their almost infinite division into petty tribes, and on their hereditary and exterminating hostilities. Nor have we reflected that the stone tomahawk is a very inefficient instrument for cutting timber into palisades, nor that if fire be adopted as a substitute, the process is tedious and laborious. Their transportation too must have been a serious objection to their use, and in a few years they require renewal. Even when otherwise proper, they were always liable to be burned by the enemy. These circumstances render it probable that the erection of the earthern parapet was the most economical and desirable mode in which the Indians could provide for the security of themselves, and of those who were most dear to them. And their migratory habits will sufficiently account for the number of these works, without resorting to the existence of a dense population, utterly irreconcileable with the habits of a people, who have not yet passed the hunter state of life."

Sect. VIII.—*Local Geography.*

The territory of the confederacy is at present divided into twenty-six States, two Territories, and one Federal District, which contains the seat of government. This does not include the extensive tract assigned to the Indians, called the Western Territory, and the region west of the Missouri and north of the Platte, in which there is no white population, and which has received no political organization or official name. The States are divided for municipal purposes into small sections, styled counties, except in South Carolina, where they are called districts, and in Louisiana, where they are called parishes. In the States of New England, in New York, Pennsylvania, New Jersey, Ohio, Indiana, and Michigan, the counties are subdivided into townships, often called towns, and in Delaware into hundreds. The following table gives a view of the absolute and relative population of the States and Territories in 1830; of the number of the different classes of the population; of the rate of increase from 1820 to 1830; and of the area, and number of representatives of each State in the Federal Congress.

STATES AND TERRITORIES.	Area, Sq. M.	Whites.	Free coloured.	Slaves.	Total.	Rate of Increase.	Population per Sq. M.	Numb. of Represent
Maine	33,200	398,263	1,192	0	399,955	33.9	12	8
New Hampshire	9,490	268,721	607	0	269,328	10.3	28	5
Vermont	10,000	279,771	681	0	280,652	19.0	27	5
Massachusetts	7,800	603,359	7,049	0	610,408	16.65	81	12
Rhode Island	1,225	93,621	3,561	17	97,199	17.0	73	2
Connecticut	4,764	289,603	8,047	25	297,675	8.15	62	6
New York	46,000	1,868,061	44,870	75	1,918,608*	39.36	42	33
Pennsylvania	46,000	1,309,900	37,930	403†	1,348,233	28.5	30	25
New Jersey	7,276	300,266	18,303	2,254‡	320,823	15.6	44	6
Delaware	2,100	57,601	15,855	3,292	76,748	5.5	36	1
Maryland	13,500	291,108	52,938	102,994	447,040	9.74	30	8
District of Columbia	100	27,563	6,152	6,119	39,834	20.1	398	0
Virginia	70,000	694,300	47,348	469,757	1,211,405	13.7	18	21
North Carolina	50,000	472,843	19,543	245,601	737,987	15.5	15	13
South Carolina	33,000	257,863	7,921	315,401	581,185	15.6	18	9
Georgia	62,000	296,806	2,486	217,531	516,823	51.56	8	9
Florida Territory	55,000	18,385	844	15,501	34,730	....	0.8	0
Alabama	50,000	190,406	1,572	117,549	309,527	142.	6	5
Mississippi	46,000	70,443	519	65,659	136,621	81.	3	2
Louisiana	48,200	89,231	16,710	109,588	215,739§	40.6	4	3
Tennessee	45,000	535,746	4,555	141,603	681,904	62.	15	13
Kentucky	40,500	517,787	4,917	165,213	687,917	21.9	17	13
Ohio	44,000	928,329	9,576	0	937,903	61.	21	19
Indiana	36,000	339,399	3,632	0	343,031	133.	10	7
Illinois	53,500	155,061	2,384	0	157,445	185.2	3	3
Michigan	54,000	?	?	0	87,273‖	....	2	1
Missouri	66,000	114,795	569	25,091	140,455	111.	2	2
Arkansas	54,000	25,671	141	9,629	58,134¶	....	1	1
Wisconsin Territory	300,000	....	......	0	30,000**	....	0.01	0

The topographical details may be distributed under the general heads of,—1. The Federal District: 2. New England: 3. Middle States: 4. Southern States and Territories; and 5. Western States and Territories.

Subsect. 1.—*District of Columbia*, or *Federal District.*

The District of Columbia is a territory of ten miles square, under the immediate jurisdiction of the Congress, situated on both sides of the Potomac, 200 miles from the sea, and lying between Maryland and Virginia, by which States it was ceded to the general government of the Union, in the year 1790. The site was selected by Washington, in pursuance of a clause of the Constitution, which gives Congress power to exercise exclusive legislation in all cases over such District, not exceeding ten miles square, as may, by cession of particular States, and the acceptance of Congress, become the seat of government of the United States. The surface of the District is undulating, consisting in part of low marshes, interspersed with considerable eminences, which give variety to the scenery, and command some fine views. The situation is favourable for trade, ships of any size being able to come up to Alexandria, and large vessels ascending to the Navy-Yard in Washington. The District is divided into two counties, Washington and Alexandria, and it contains three cities, Washington, Georgetown, and Alexandria. The meridian of the Capitol, which is very generally used in American maps and geographical works as a first or prime meridian of longitude, is 77° 1′ 48″ west of the English first meridian of Greenwich, and 79° 22′

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* Including 5,602 not regularly returned.

† It appears that the actual number of slaves in Pennsylvania was only 67, the number here given including indented apprentices.

‡ Every child born after 1804 is free.

§ Including 210 not regularly returned.

‖ Population in 1835.

¶ Population in 1835

** Population in 1835.

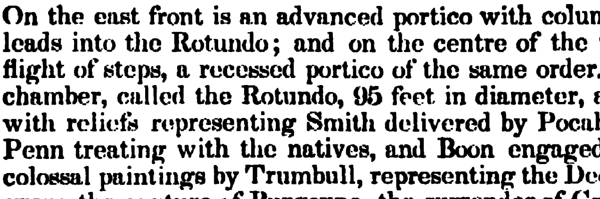
11″ west of the meridian of Paris. The population of the District amounted, in 1830, to 39,834, of which 6119 were slaves, and 6152 free blacks.

1120

Washington City.

The City of Washington (*fig.* 1120.) was laid out under the superintendence of the great man whose name it bears, in 1791, and became the seat of government in 1800. The situation is fine, on somewhat elevated ground at the junction of the Potomac and the East Branch, which here form a wide basin, more like a sea than a river. The plan is perhaps unrivalled for beauty and regularity, forming a parallelogram of about four miles by two and a half. The principal streets or Avenues are ten in number, five of which diverge from the President's House and five from the Capitol; one of them, called Pennsylvania Avenue, running directly from the former to the latter, a distance of one mile. The Avenues, which are named from the States, are crossed by streets running north and south, and by others running east and west, all of which are very spacious, being from 70 to 160 feet wide. Wide, open spaces are also formed at the intersections of the streets and Avenues, and the public buildings are placed in situations which will give them the happiest effect. But a small part of the ground thus laid out, is as yet, however, covered by buildings, and as detached points of the plan have been occupied, little order is perceptible to the observer, and the City consists only of straggling clusters of houses placed at inconvenient distances from each other. Washington is the residence of the President of the United States, and of the other chief executive officers of the federal government, and of foreign ministers to the United States; the Congress meets here annually on the first Monday of December; and the Supreme Federal Court also holds its annual sessions here. The population of the City is 18,827, including 3129 free blacks, and 2319 slaves; but during the session of Congress the City is thronged with visiters from all parts of the world. There is a bridge over the Potomac, leading to Alexandria, one mile in length, about one-half of which is composed of stone and earth, and the remainder of piles; and there are two over Rock Creek to Georgetown: regular lines of steam-packets run on the Potomac, a rail-road connects the City with Baltimore, and numerous stage-coaches leave daily for different quarters. The Capitol (*fig.* 1121.) is the most magnificent structure in the United States; it is built of freestone painted white, and stands on the brow of a hill about 75 feet above the river, overlooking the broad bosom of the Potomac and the surrounding country; it consists of a centre and two wings, with an entire front of 350 feet, the centre being surmounted by a lofty dome and the wings by flat ones; height of wings 70 feet; to top of central dome 145 feet. On the east front is an advanced portico with columns of the Grecian Corinthian order, which leads into the Rotundo; and on the centre of the west front, which is approached by a long flight of steps, a recessed portico of the same order. Under the central dome, is the circular chamber, called the Rotundo, 95 feet in diameter, and of the same height, which is adorned with reliefs representing Smith delivered by Pocahontas, the Pilgrims landing at Plymouth, Penn treating with the natives, and Boon engaged in a fight with Indians; and with four colossal paintings by Trumbull, representing the Declaration of Independence reported to Congress, the capture of Burgoyne, the surrender of Cornwallis, and Washington's resignation of his commission. On the west of the Rotundo is the Library of Congress, a neat and commodious hall, with 20,000 volumes. In the south wing is the House of Representatives, a splendid amphitheatre, 95 feet long and 60 high, adorned with 24 breccia columns procured from the vicinity, with Grecian Corinthian capitals of white Italian marble supporting the dome; the chord and the circular wall are both occupied by galleries. In the north wing is the Senate Chamber of the same form but smaller, being 74 feet in diameter and 42 feet high; here also are two galleries for spectators. Below the Senate Chamber is the Hall of the Supreme Court. There are also 70 rooms for the accommodation of committees, and officers of Congress. The Capitol is surrounded by handsome grounds, covering 22 acres, laid out in walks and adorned

1121



The Capitol at Washington.

with shrubbery and trees, adjoining which is a botanical garden under the care of the Columbian Institute. In the court of the west front stands a rostral column, erected in honour of those officers who fell at Tripoli. The President's House, also of freestone, is two stories high, with a lofty basement, and it has a front of 180 feet, adorned with an Ionic portico; it is surrounded by extensive grounds. On each side are the four offices of the executive departments; the War Office contains a gallery of Indian portraits, and the State Office several interesting original papers, as the Declaration of Independence, Washington's Commission, &c. Nearer the centre of the City is the General Post-Office, including the Patent Office, in which are exhibited several thousand models of patented inventions. There are also here an Arsenal and a Navy-Yard, with a City Hall, an Hospital, Penitentiary, 20 Churches, the Halls of Columbia College, &c. A branch of the Chesapeake and Ohio Canal terminates in the City. Washington was entered by a body of British troops in 1814, who burnt the Capitol, the Public Offices, and the President's House, destroyed the Library of Congress, &c. They also occupied Alexandria, where they committed some ravages.

Georgetown may be considered a suburb of the metropolis, being separated from it only by a narrow creek. It is about three miles west of the Capitol, and is pleasantly situated, commanding a prospect of the river, the neighbouring city, and the diversified country in the vicinity. The houses are chiefly of brick, and there are many elegant villas in different parts. The Convent of the Sisters of the Visitation occupies a delightful situation upon an eminence overlooking the town: this institution contains about 60 nuns, and embraces a high school for females, and a charity school of 400 pupils. The Catholic college here is also a respectable institution. Georgetown is a thriving place, and has considerable commerce; but the navigation of the river is obstructed by a bar just below the town; here is also a cannon foundery. The Chesapeake and Ohio Canal reaches the Potomac at this place. Population, 3441. The city of Alexandria, six miles below Washington, on the opposite side of the Potomac, which is here a mile wide and from 30 to 50 feet deep, carries on an extensive trade in flour, tobacco, &c., and is actively engaged in the valuable shad and herring fisheries of the river. The city is regularly laid out, and prettily situated at the foot of green and gently swelling hills, and it has a good harbour with commodious wharfs, accessible to the largest ships; the shipping of the port is 9600 tons. Here are a High School, a girls' boarding-school, under the charge of the Sisters of Charity, an Orphan Asylum, nine Churches, several tanneries, engine manufactories, founderies, cotton-mills, &c.; population, 8263.

Subsect. 2.—*New England*, or *North-eastern States.*

New England, comprising the six States to the east of the Hudson, includes some of the most populous and improved tracts in the United States. Its surface is infinitely varied, being generally hilly and in some parts rugged and mountainous; the loftiest summits of the White Mountains do not, however, rise more than 6428 feet above the level of the sea, and Mansfield Mountain, the highest peak of the more westerly chain of the Green Mountains, is only 4279 feet high. Most of the hills are clothed with forests, and being generally of a rounded form and easy ascent, are cultivated to their summits. New England is well watered and contains several noble rivers and fine lakes; the coast is penetrated by numerous inlets or tide-rivers, affording free navigation, and abounding in excellent harbours. The principal rivers are the Penobscot, Kennebeck, Merrimack, and Connecticut; the current of these and of the smaller rivers is, in general, rapid, and the water is clear and pure; the whole country is also full of water-falls, which furnish an abundance of mill-seats. The Connecticut rises in the Highlands that separate the United States from Canada, and taking a southerly course between Vermont and New Hampshire, and through Massachusetts and Connecticut, it discharges its waters into Long Island Sound, after a course of 450 miles. The tide reaches the foot of Enfield falls, and vessels drawing eight feet of water ascend to Hartford, 50 miles from the sea; several side cuts extend the boat navigation 275 miles from its mouth. In the upper part of its course, the Connecticut flows through magnificent mountain scenery, and in the lower it is bordered by fertile meadows, and washes some of the prettiest towns of New England. The Merrimack rises in the White Mountains, and, after taking a southerly course into Massachusetts, changes its direction, and runs north-eastwardly into the sea at Newburyport. It is much broken by falls, and its banks are now the seat of some of the principal manufacturing establishments in the United States. The tide flows 20 miles to Haverhill, to which place the river is navigated by sloops; and by the aid of locks and canals, boats ascend to Concord.

The climate of New England is severe, the winters are long and cold; and the soil, with the exception of some fine alluvial formations, is of inferior quality. Indian corn, or maize, which thrives in all parts of the United States, rye, oats, and some wheat, flax, hops, &c. are produced, but the country is, in general, better adapted for grazing and tillage. A severe climate and a niggard soil have compelled the New Englander to seek a living by mechanical and manufacturing pursuits, by commerce and the fisheries, and to these branches of industry this section of the country is indebted for its prosperous condition. The cod-fishery, the whale-fishery, and the herring and mackerel-fishery, are prosecuted almost solely from New England. An active commerce is carried on from all its numerous ports with all quarters of the world, and its lumber, the produce of its fisheries, and its manufactures are largely exported. Almost every village carries on some handicraft, and the farmer often employs the long winter evenings in some gainful task; thus are produced many little objects of trade, which, although in appearance of small value, yet in the aggregate constitute a source of considerable wealth to the community. Hats, shoes, carriages and wagons, cabinet-ware, whips, saddlery, wooden clocks, combs, buttons, straw, chip, and palm-leaf hats and bonnets, tin-ware, brushes, brooms, &c. are produced to such an extent as almost to rival in value the cotton and woollen stuffs of the large manufacturing establishments. These last are on a greater scale than in any other part of the country, and are supplied with the most improved machinery, which is also of home make.

The New England villages are remarkable for their neat and thrifty appearance, and the population is distinguished for its spirit of hardy enterprise, its industry, its intelligence, and its high moral and religious tone. The severe religious character of the English Puritans, by whom the New England colonies were settled, has been transmitted to their posterity; and their love of learning, which was, indeed, one form of their religious zeal, has led to the establishment of institutions for education, which have been fondly cherished to the present time. The system of free schools, by which education is carried to every door, is peculiarly of New England origin. The Congregational form of church discipline, in which each religious society constitutes an independent community managing its own concerns by the popular voice. and the division of the country into little municipalities, called towns, in which the people also act directly upon all local affairs, tend to nourish a strong democratic spirit, which is further strengthened by the general equality of fortunes and the free tenure of the soil.

1. *State of Maine.*

The State of Maine, which occupies more than half the surface of New England, is of a long, irregular shape, extending from 43° to 48° 12′ N. lat., and from 66° 50′ to 71° W. long., having an area differently estimated at from 33,000 to 35,000 square miles. A long ridge of highlands of no great elevation runs from the northeastern head of the Connecticut, in a northerly and northeasterly direction, and, separating the waters of the St. Lawrence from those of the Atlantic, forms the boundary between the State and Lower Canada. Numerous spurs, shooting out from this dividing ridge, cover the western part of Maine, and give it an aspect decidedly mountainous; some of the summits have an elevation of about 4000 feet, and Mount Katahdin, a rugged and insulated group of hills between the east and west branches of the Penobscot, is 5335 feet in height. The rest of the surface is, in general, hilly, and the river courses are broken by numerous falls. Most of the rivers rise in the central part of the State, from which the surface slopes to the south and northeast, determining the courses of all the principal streams in those directions. Thus, the Allagash, the Walloostook, and the Aroostook, the three great branches of the St. John, take their rise in an elevated Lake region, in which lie the sources of the Penobscot and Kennebeck, and flow north and east. The St. Francis and Madawaska, however, in the extreme northern corner of the State, descend from the Northeastern Highlands in a southeasterly course. All the tract drained by these rivers, and constituting about one-third of the whole surface of the State, is claimed by Great Britain, on the ground that this water-shed is the "high lands which divide those rivers that empty themselves into the St. Lawrence, from those which fall into the Atlantic." A portage of about two miles in some places separates the northern and southern water-courses, and it has been ascertained to be practicable to turn the waters of the Allagash, by a short cut, into the channel of the Penobscot; the summit-level between the two rivers scarcely exceeding two feet.

The most important southern rivers of Maine are the Schoodic, Penobscot, Kennebeck, Androscoggin, and Saco. The Penobscot is the largest of these fine streams; its western branch, rising in the Northwestern Highlands, near the sources of the Chaudiere, takes an easterly course, and after passing through Chesuncook Lake, joins the eastern branch, which descends from the Seboois Lakes lying on the southern declivity of the central water-shed, from the junction, the united waters have a pretty direct southerly course to the beautiful and spacious Bay of the same name. The whole length of the river is about 350 miles, and it is navigable by large vessels to the city of Bangor, 50 miles from the sea; above, it is much broken by falls. The Kennebeck rises in the same region with the Penobscot, and flowing in a course parallel to that river, first east, and then, after passing through Moosehead Lake, south, it reaches the tide at Augusta, 50 miles from the sea, and at the head of sloop navigation. The other rivers are too much broken by falls and rapids to afford any great facilities for internal communication; but they furnish good harbours at their mouths, and a few miles of navigable waters for small vessels, and are the channels by which the timber of the interior is brought down to the sea. They also form a vast number of fine mill-seats, which have been advantageously used for sawing that great staple of the State.

It has been estimated that one-sixth of the surface of Maine consists of water, and indeed the Lakes are so numerous as to form one of the characteristic features of the country. Some of them are remarkable for their picturesque beauties, and many of them will be useful mediums of communication when their vicinity is more populous. Mooschead Lake is the largest of these bodies of water, and is already navigated by a steam-boat; it is 50 miles in length and of a very irregular form, being from five to fifteen miles broad. Chesuncook Lake is about 25 miles by 3. There are many fine Islands along the coast, but Deer Island, Campobello, and Grand Menan belong politically to New Brunswick.

Maine does not appear to be rich in minerals, yet there is abundance of iron ore of excellent quality; limestone is burnt in great quantities for exportation, and in some places yields a good marble; and there are indications of bituminous coal in the southeastern part of the State, between the Kennebeck and the St. Croix. One of the most important productions, at present, is the white pine timber, which is very extensively used in the ornamental work of our buildings; it is found chiefly upon the upper Kennebeck and Penobscot, and on the Allagash, beyond which it becomes less abundant, and is gradually succeeded by the cedar; as there is no other tract yielding this timber to any considerable extent in the Atlantic States, these timber lands have lately very much risen in value. The breeding of cattle and sheep has hitherto formed the principal branch of agricultural industry, but excellent wheat is raised, particularly in the valley of the Kennebeck. The value of the lumber cut and sawed annually is estimated at 10,000,000 dollars; the yearly value of wool grown is about 2,000,000; that of lime manufactured in the State, 1,000,000; annual value of manufactures 10,000,000. The total shipping belonging to the State amounts to 225,329 tons, and about 50,000 tons are annually built. The value of the imports in the year 1834, was 1,060,121 dollars; of exports, 834,167, of which all but 18,890 dollars was of domestic produce. Beside lumber, lime and wool, beef, pork, butter, pot and pearl ashes, dried and pickled fish, hay, marble, firewood, &c. are exported.

Maine was settled at an early period of the 17th century, and was annexed to the colony of Massachusetts Bay in 1652. It continued to form a part of the State of Massachusetts until 1820, when it was received into the Union as an independent State. The Governor, Executive Council, and Legislature, consisting of a Senate and House of Representatives, are elected annually, and every male citizen of the age of 21 years (excepting paupers), who has resided in the State during the three months preceding the election, is entitled to vote. The Judges are appointed by the Governor with the consent of Council, and hold their office during good behaviour. The seat of government is Augusta. The State is divided into ten counties:

Counties.	Population.	County Towns.
Oxford	35,211	Paris
York	51,722	York and Alfred
Cumberland	60,102	Portland
Kennebeck	52,484	Augusta
Lincoln	57,183	Wiscasset Topsham Warren
Somerset	35,787	Norridgewock
Penobscot	31,580	Bangor
Waldo	29,788	Belfast
Hancock	24,336	Castine
Washington	21,294	Machias.

Population at Different Periods.

1790	96,540
1800	151,719
1810	228,705
1820	298,335
1830	399,455.

The constitution makes it the duty of the Legislature to require the several towns to make suitable provision, at their own expense, for the support of public schools, and to encourage and suitably endow academies, colleges, and seminaries of learning. In pursuance of this provision, each town is required by law to raise annually a sum equal to forty cents for each inhabitant, which is distributed among the town schools in the ratio of the number of scholars in each. Further grants are also made by the State in aid of their support.

There are in the State 30 Academies; a Baptist College, at Waterville; a Congregationalist Theological Seminary, in Bangor; a Wesleyan Theological Seminary, at Readfield, and Bowdoin College, with a Medical School, at Brunswick. The number of pupils in the common schools is about 15,000. The principal religious denominations are Baptists, Congregationalists, and Methodists; there are also Friends, Universalists, Roman Catholics, Episcopalians, &c.

All of the towns are in the southern part of the State; in which, indeed, nearly the whole of the population is concentrated. There are some settlements on the St. John, in the northern part, which is, however, at present, under British jurisdiction, and through which there is a road leading from Fredericton, in New Brunswick, to the river St. Lawrence. The central part is almost wholly uninhabited and covered with primitive forests, which are visited only by hunters and lumberers. The felling of timber is generally performed in winter; the trees are cut into logs of about 18 feet in length, which are easily dragged over the snow to the banks of the nearest stream, and left to be carried down by the current on the breaking up of the ice. At the mills they are collected by the owners, who had previously marked them, and converted into boards, &c. The persons employed in this business are called lumberers, or river-drivers, and are exposed to great hardships. The upper streams, being narrow and crooked, are sometimes clogged up by the logs, which are prevented from descending by rocks or other obstructions. Such a mass is called a jam, and can be broken up only by cutting away the foremost logs. The operation is often dangerous, as the whole accumulated volume of water rushes down with great violence, sweeping away thousands of logs before it.

The property of about eight or nine millions of acres is still vested in the States of Maine and Massachusetts; these lands are divided into six classes, according to their value; those of the first quality for timber, forming the first class; those next in value, the second; those of the best quality for settlement, the third, and so on: a minimum price is fixed for each class, varying from 75 cents an acre for the first to 20 cents an acre for the sixth, and a certain number of acres are reserved for public lots in each township.

On Passamaquoddy Bay, which abounds in good anchoring places well sheltered from all winds, are the towns of Eastport and Lubeck, in the collection district of Passamaquoddy. Eastport, the most easterly town in the United States, is situated on Moose Island, and it has a large and commodious harbour. Its population, which in 1830 amounted to 2450, has since much increased, and it is actively engaged in the fisheries and timber trade. There is a United States' Military Post here. Opposite to Eastport, on the main land, is Lubeck, with a spacious and safe harbour, and 1535 inhabitants. Calais, at the head of tide on the Schoodic river, 12 miles from its mouth, is a thriving place, whose population has increased from 1686, in 1830, to about 3500, in 1835. Proceeding to the west, we come to Machias, situated on a small river of the same name, which affords an abundance of mill-seats. A great number of saw-mills, and an active trade in lumber, render Machias a bustling town. It is the seat of justice for the county of Washington, and contains 2775 inhabitants.

There are several flourishing towns on the Penobscot, which are indebted for their prosperity to the facilities of communication afforded by that noble river. Castine, on the east side, near the head of Penobscot Bay, and at the entrance of the river, has an excellent and capacious harbour. Belfast, on the opposite side of the Bay, shares in the maritime advantages of Castine, and has 3077 inhabitants. It has been ascertained that the most favourable route for a rail-road from the Atlantic coast to Quebec, is from Belfast, 227 miles; estimated cost about 5,000,000 dollars. The city of Bangor, at the head of tide-water, has lately become the most important place on the Penobscot. Added to its maritime advantages, is the vast power furnished by the falls in the river, which has been employed to propel a great number of saw-mills; and it is said that from 300,000,000 to 400,000,000 feet of lumber are annually exported from this port. A rail-road has been constructed to Orono, or Old Town, above the falls, and steam-boats run regularly between Bangor and Boston; the river, however, is shut up by ice in winter. The population of the city is at present upwards of 8000, having been nearly trebled since 1830. Lower down, on the opposite side of the river, is Bucksport. At Old Town, or Orono, 12 miles above Bangor, are the remains of the Penobscot Indians, 280 in number, under the religious care of a Catholic priest. A large number of mills have recently been put up here, and the population of Orono increased from 1472, in 1830, to upwards of 5600 in 1835.

Augusta, the capital of the State, stands at the head of sloop navigation on the Kennebeck, 50 miles from its mouth. It occupies both banks of the river, across which there is a bridge, and contains a handsome state-house of granite, and an United States' arsenal. The Kennebeck road passes through an almost unbroken wilderness from this place to Quebec, 225 miles. Population, 3980. Three miles below Augusta is Hallowell, a flourishing commercial town with 3964 inhabitants, accessible to vessels of 150 tons. Gardiner, a few miles further down the river, is also a neat and busy town of about the same size as the preceding, and containing some valuable mills. Bath, about 15 miles from the sea, at the head of ship navigation, is one of the principal commercial towns in the State, and the inhabitants carry on the business of ship-building with great activity. Between the Kennebeck and Penobscot, are Wiscasset, Waldoboro, and Thomaston, on short but navigable rivers, or rather inlets from the sea, which give them important facilities for trade. Great quantities of limestone are found at Thomaston, and most of the lime exported from Maine is prepared here. Granite and marble are also quarried and wrought here, and sent to other parts of the country. The State prison at Thomaston is arranged and conducted on the New York or Auburn plan. The population of the town is 4221. A few miles west from Bath are Brunswick and Topsham, at the falls of the river Androscoggin, which affords excellent mill-seats. Advantage has been taken of this situation, and there are numerous mills and manufacturing establishments here moved by water-power. Brunswick, which has 3547 inhabitants, contains a highly respectable institution, called Bowdoin college, with ten teachers of the ancient and modern languages, natural and moral science, and natural philosophy.

The city of Portland, formerly a part of Falmouth, is finely situated on an elevated peninsula extending into Casco Bay, a beautiful sheet of water, affording excellent anchorage, and containing a great number of pretty islands. The city is well laid out and handsomely built, and has a safe and capacious harbour, which is defended by two forts. The inhabitants carry on an extensive coasting and foreign trade, and prosecute the fisheries with great activity; upwards of 40,000 tons of shipping belong to the port, and the duties collected here exceed 180,000 dollars a year. Here are six banks, sixteen churches, a court-house, theatre, an athenæum with a public library, &c.; and the population, which in 1830 amounted to 12,601, is now upwards of 16,000. The Cumberland and Oxford canal extends from the city to Sebago Pond, 20 miles, and by a lock in Songo river, the navigation is extended 30 miles further. Measures are also taking for the construction of a rail-road from Portland to Portsmouth, a distance of 45 miles, which will form a continuation of the Eastern rail-road from Boston to Portsmouth.

Saco, situated at the falls of the river of the same name, which has here a descent of upwards of 40 feet, is six miles from the sea, and is accessible to small vessels. Here are about 20 saw-mills, several cotton-mills, a rolling-mill and nail-factory, &c., and a population of 3219. York, in the southwestern corner of the State, is a place of considerable trade, with 3485 inhabitants.

2. *State of New Hampshire.*

New Hampshire has the shape of a triangle, with the base in 42° 40′ N. lat., and the vertex in 45° 20′, being 168 miles in length, and gradually lessening in width from nearly 90 miles till it terminates in a point. A part of the northwestern boundary remains unsettled; by the treaty of 1783 the boundary line was to be continued from the Highlands separating Maine and Canada to the northwesternmost head of the Connecticut, and down that river to the 45th degree of latitude; but a question has arisen as to which is the true head of the river; the British government finds it in the stream which runs through Lake Connecticut, and fixes upon the northwesternmost source of that stream as the point intended by the treaty; the Americans consider a more western branch as the main river, and extend their claims to its most remote head. The Indian Stream settlements lying between these branches, are within the disputed territory. The area of the State is nearly 9500 square miles. It has a sea-coast of only eighteen miles, behind which there is a narrow, level tract of 25 or 30 miles in width; the rest of the surface is hilly or mountainous, the hills increasing in height as they recede from the sea, until they swell into the lofty grandeur of the White Mountains.

This mountain range which enters New Hampshire between the Connecticut and the Merrimack, and of which the Monadnock, 3250 feet high, Sunapee, Kearsarge, and Mooshelock (4636 feet) appear to be links, reaches its greatest elevation in Mount Washington, which is 6428 feet above the level of the sea; the other principal peaks in this group are Mount Adams, 5960 feet, Mount Jefferson, 5860 feet, and Madison, Monroe, and Franklin, little inferior. They are composed of huge rocks of granite and gneiss; round their base is a forest of heavy timber, which is succeeded by a belt of stunted fir trees from ten to fifteen feet high; above this is a growth of low bushes, and further up the surface is covered only with a shroud of dark coloured moss; the snow lies on their summits about ten months in the year, giving them the appearance from which they take their name. The Notch is a remarkable chasm, two miles in length, and, where narrowest, only 22 feet wide, forming the only pass through the great mountain bulwark; between the high, steep precipices which form its walls, flows one of the head branches of the river Saco. Several cascades leap down these steep declivities, and, in 1826, a violent fall of rain caused a slide of earth, rocks, and trees, which choked up the streams, swept away every thing before it, and filled the valley with ruin. A family of eleven persons living in the Notch house were overwhelmed beneath the torrent.

New Hampshire is well watered, but its principal rivers are partly in other States. The Piscataqua, the only considerable stream whose whole course is in this State, is formed by the junction of the Salmon Falls and the Cocheco, from the north, with several smaller streams from the west; and it is only from the point of junction to the sea, a distance of about ten miles, that it bears the name of the Piscataqua; at its mouth is the harbour of the same name, one of the finest in the United States. Mill streams abound, and the larger rivers are so much broken in their course as to afford numerous fine mill-seats. There is also a great number of lakes, among which the most important is Lake Winnipiseogee. It is a picturesque sheet of water about twenty-three miles in length, and varying from two to ten in breadth. Upwards of 300 pretty islands are sprinkled over its bosom, and its shores are indented with beautiful bays, formed by gentle swells of land projecting into the lake and rising gracefully from its waters. It abounds in fish, and its water is remarkably pure; being on the route to the White Mountains, it is now much visited by travellers, and a steam-boat plies on the lake.

On the coast are the Isles of Shoals, belonging partly to New Hampshire and partly to Maine. They lie about eight miles out at sea, between Portsmouth and Newburyport, and are hardly more than a cluster of rocks rising above the water. For more than a century previous to the revolution, they were quite populous, containing at one time six hundred inhabitants, who found there an advantageous situation for carrying on the fisheries. To this day, the best cod are those known under the name of Isle of Shoals dun-fish. From three to four thousand quintals were once annually caught and cured here, but the business has latterly declined. The inhabitants are about one hundred; they live solely by fishing, and in connexion with those of the shore in their immediate neighbourhood, who follow the same mode of life, are the most rude and uncivilized beings in New England, except the Indians. Efforts have recently been made to improve their condition, and they have now a meeting-house, school, &c.

The mineral resources of New Hampshire are not great. Copper is found at Franconia, and iron is abundant in Lisbon and Franconia; plumbago or black lead also occurs in several places, particularly at Bristol. A fine-grained granite, which is quarried in many places, affords an excellent building material. The forest affords abundance of excellent timber, and the white pine sometimes attains the height of 200 feet, with a straight trunk six feet and upwards in diameter. The sap of the rock-maple yields excellent sugar; and pot and pearl ashes and ginseng are exported in considerable quantities. The occupation of the inhabitants is chiefly agricultural, and horses and cattle, beef, pork, butter, cheese, &c. are largely exported. There are some large manufacturing establishments, chiefly in the southern part of the State. In 1833, there were in New Hampshire 60 cotton, and 32 woollen mills, 609 grist-mills, 952 saw-mills, 19 oil-mills, 15 paper-mills, 234 fulling-mills, and 236 carding-mills. Manufactures are also carried on in families to a considerable extent, and some vessels are employed in the bank and shore fisheries; but many of the inhabitants leave the State every year in search of employment.

The first settlements were made, in 1623, at Dover and Portsmouth, under a grant to Mason and Gorges; these were afterwards incorporated with Massachusetts, but were again separated in 1679, from which time New Hampshire formed a distinct province. The Governor and Executive Council, with the two legislative houses, styled the Senate and House of Representatives, forming together the General Court, are chosen annually by the people; all male inhabitants of 21 years of age paying taxes are voters. The judges are appointed by the Governor and Council, and hold their offices during good behaviour. Concord is the seat of government. The State is divided into eight counties.

Counties.	Population.	County Towns.
Coos	8,388	Lancaster
Grafton	38,682	Haverhill Plymouth
Merrimack	34,614	Concord
Sullivan	19,669	Newport
Cheshire	27,016	Keene
Hillsborough	37,724	Amherst
Strafford	58,910	Dover Gilmanton Gilford Rochester
Rockingham	44,325	Portsmouth Exeter.

Population at Different Periods.

1790	141,899
1800	183,762

1810 - - - - - - - - - - - - -	214,360
1820 - - - - - - - - - - - - -	244,161
1830 - - - - - - - - - - - - -	269,328.

Common schools are established by law throughout the State, and are supported in part by town taxes, in part by school lands or funds arising from the sale of them, and belo to the towns, and in part also by the proceeds of certain State taxes; the number of school-houses in the State somewhat exceeds 1600; and there are 35 academies, attended by about 1600 pupils. Dartmouth college, in Hanover, is a well endowed institution, and affords instruction in the common branches taught in the New England colleges. The principal religious denominations are Congregationalists, Baptists, and Methodists, with some Friends, Presbyterians, Episcopalians, and Roman Catholics.

Nearly four-fifths of the population reside in the southern part of the State, south of Lake Winnipiseogee, much of the northern part being quite unimproved, and a large portion of it being too rugged and sterile to be susceptible of cultivation. Portsmouth, the only sea-port, and the largest town in the State, is pleasantly situated on the Piscataqua, three miles from the sea. It has one of the finest harbours in the world, affording 40 feet of water in the channel at low tide, and being easily accessible to vessels of the largest size, and completely landlocked. It is protected by several forts. The tides rise ten feet. The town stands on a peninsular elevation, sloping towards the harbour, and is well built. It contains seven churches, seven banking-houses, the county buildings, &c., and is well supplied with good water brought from the neighbourhood. Two wooden bridges have been built across the Piscataqua, one of which is 1750 feet long. There is here a navy-yard belonging to the United States, situated on Navy Island, on the east side of the river, and within the limits of Maine. The population of Portsmouth is 8082. The coast to the south of Portsmouth contains several fishing villages, the fine beaches adjoining which are much resorted to as bathing places.

In this vicinity are Dover on the Cocheco, Somersworth on Salmon Falls River, Exeter on Exeter River, and Newmarket on Lamprey River. All of these rivers are fine mill streams, and have rendered the towns above-mentioned the seats of large manufacturing establishments. The tide-water reaches these towns, which are all accessible to sea vessels. The village of Great Falls is the chief seat of the manufactories in the township of Somersworth. There are here five or six cotton mills, containing upwards of 30,000 spindles, producing seven or eight million yards of cloth yearly, and employing upwards of 800 operatives, chiefly females. The population of the village is at present about 3000. Dover has nearly the same number of mills, together with calico-printing works, which bleach and print about four million yards a year. The town contains 5449 inhabitants. Newmarket, with 2008 inhabitants, has three mills with 14,000 spindles. Exeter, beside its mills and manufactures, contains a respectable seminary, well known as Phillips's Academy. Population, 2759.

The Merrimack has been rendered navigable for boats to Concord, in which much of the trade of the upper country centres, by four short canals, with a lockage of 110 feet between that place and the Middlesex Canal, in Massachusetts. The country on both sides of the river is well wooded, the hilly tracts being covered with noble forests of oak, maple, beech, hickory, pine, &c., and the plains and valleys with the elm, ash, poplar, birch, sumach, locust, &c.; and on the banks of the Merrimack and its tributaries are many patches of excellent meadow-land. Concord is the capital of the State, and contains the state-house and state prison, built of granite, the county buildings, &c. The prison is conducted on the Auburn plan. Population, 3727. Near the southern border of the State is the flourishing manufacturing village of Nashua in the township of Dunstable; it contains several large cotton-mills, and the population of the town increased, between 1830 and 1836, from 2414 to 5065.

Amherst and Keene are neat thriving towns, between the Merrimack and Connecticut; and on the latter river are Walpole, Hanover, the seat of Darmouth College, Haverhill, and Lancaster, towns of between 2000 and 3000 inhabitants.

3. *State of Vermont.*

This hilly tract, which has received its name from the verdant aspect of its mountains, lies between the Connecticut, and the long, tapering basin of Lake Champlain, stretching from 42° 44′ to 45° N. lat., a distance of about 160 miles, with a breadth gradually and regularly expanding from 45 miles in the south to 90 in the north, and an area of 10,000 square miles. The most striking feature is the mountainous range called the Green Mountains, which traverses the State from north to south, and passing into Massachusetts, there takes the name of the Hoosac Mountains. In the centre of the State, this ridge is divided into two, of which the one called the Height of Land runs northeasterly to Canada, and the other taking a northwesterly direction sinks down in the northern part of the State. The former divides the streams of lakes Champlain and Memphremagog, from the tributaries of the Connecticut; while the latter, though loftier, presents a more broken outline, and is cut through by several rivers. The part of the ridge which traverses the southern portion of the State is the dividing line between the waters that flow into the Hudson and those that empty themselves into the Connecticut. The Green Mountains are from 10 to 15 miles wide, much intersected with valleys, and they derive their name from their perpetual verdure; their sides being covered with small evergreen trees and shrubs, and their summits with green moss and winter grass. There are many fine farms among the mountains, and much of the land upon them is excellent for grazing. The highest summits are Mansfield Mountain, 4279 feet above the level of the sea; Camel's Rump, 4188 feet high, both in the northwestern ridge, and Killington Peak, 3675 feet. Ascutney, a single elevation near Windsor, is 3320 feet above tide-water.

The Connecticut washes the eastern border of the State; the water-shed, or dividing ridge, already described, being nowhere more than 35 miles from the river, and throughout most of its course not more than half that distance, its tributaries in this State are scarcely more than mountain torrents. On the western side, the streams have a northwesterly course, and are considerably longer; but as they force their way through the western branch of the mountainous range, their course is also rapid and much broken by falls. The Misisque, Lamoile, Onion, and Otter Creek, flowing into Lake Champlain, are the principal, and they afford navigation for lake craft for five or six miles. The whole State is abundantly watered by pure, running brooks, many of which, with the larger streams, are turned to use by carrying numerous mills. Lake Champlain extends along the western border a distance of 140 miles, and varies in width from one to fifteen miles, covering an area of 600 square miles. It is sufficiently deep for the largest vessels, and during the three years' war was the theatre of a naval engagement, in which some of the vessels carried 40 guns. It is, however, commonly navigated by vessels of 80 or 100 tons, to which the rivers and canals are accessible, and several steam-boats ply between different points on the lake. It receives the surplus waters of Lake George, and discharges itself by the Sorelle or Richelieu, which, by means of some canals round its rapids, affords a navigable communication with the St. Lawrence. The principal islands are North Hero, South Hero, and Lamotte, and there are about 50 smaller ones. The aspect of the shores is varied and pleasant, the peaks of the Green Mountains are visible in the distance, and many pretty towns and villages, and well cultivated farms, line its banks. Lake Memphremagog is a long, narrow sheet of water, lying partly in Canada, and communicating by the St. Francis with the St. Lawrence. Novaculite, or oil-stone, is found on an island in the lake, and sold under the name of Magog oil-stone.

Iron occurs in great abundance and is extensively wrought. Sulphuret of iron, or pyrites, is found at Strafford and Shrewsbury, from which three million pounds of copperas are annually manufactured, worth from 60,000 to 75,000 dollars. The native sulphuret of iron, after being broken to pieces, is thrown into heaps six or eight feet high, and left for some time exposed to the action of the air. In this way a decomposition takes place, and the sulphate of iron, or copperas, is formed, which is afterwards separated from the earthy matter of the ore. Marble of good quality is quarried and carried out of the State. The mountains are covered with a growth of hemlock, spruce, and fir; the lower tracts abound in elm, oak, hickory, butternut, pine, beech, sugar maple, and birch, and the cedar grows in swampy places. Agriculture is the chief employment of the inhabitants, and there is some good arable land, particularly between the mountains and Lake Champlain; but in general the country is better suited for pasturage. A great many excellent horses are raised here for the supply of other States, and horses and mules are exported to the West Indies. In 1830 there were in the State 226,065 head of cattle, 61,272 horses and mules, and 725,965 sheep. Maple sugar, spirits, pot and pearl ashes, bar and cast iron, and boards and timber, are also exported. About 20 cotton-mills produce annually three and a half million yards of cloth, and 112,000 pounds of yarn. Domestic fabrics of linen and woollen are made in almost every family.

Vermont was first explored by the French settlers of Canada, but the earliest settlement within the territory was made by the English of Massachusetts, who in 1724, more than 100 years after the discoveries in the northern parts, by Champlain, established themselves at Fort Dummer, on the Connecticut. Six years after this, the French advanced from Canada up Lake Champlain, and settled at Crown Point, and on the eastern shore of the Lake. The claim to the country was afterwards disputed by New Hampshire and New York. The British Parliament decided in favour of the latter State, but much confusion and altercation were caused by the conflicting grants of land made by the New Hampshire and New York governments. The disputes thus occasioned remained unsettled during the revolutionary war, after which New York compounded for her claim, and Vermont became an independent State. She was received into the Union in March, 1791.

The Legislature formerly consisted of a single house, called the General Assembly; but in 1836 the Constitution was amended by the establishment of two houses, styled the Senate and House of Representatives. The Legislative Houses, the Governor, Lieutenant Governor, and Executive Council, are chosen annually by the people. Every male inhabitant of the age of 21 years, who has resided in the State during the year preceding the elections, is entitled to vote, and each town has a right to send one Representative to the General Assembly. The Judges are chosen annually by that body. The Council of Censors is chosen once every seven years, for the term of one year, by popular vote. It is their duty to examine whether there have been any violations of the Constitution, and whether the Legislative and Executive branches have done their duty, and also to propose any alterations in the Constitution. Montpelier is the seat of government.

The towns are divided into school districts, each of which is required by law to support a school at least three months during the year. An annual tax is levied for their support, and the rent of the reserves of school lands in each township, called here the school rights, is also distributed among the districts in proportion to the number of children in each, to aid in the same purpose. The number of the school districts is 1612. There are 30 academies and county grammar schools, for the support of which similar reservations were made; and the University of Vermont, at Burlington, is endowed in the same way. Middlebury College has been founded by private funds. These institutions are attended by nearly 200 students, and there is a Medical School connected with the former. The most numerous religious denominations are, the Congregationalists, Baptists, and Methodists; and there are some Episcopalians, Christians, Universalists, and Roman Catholics.

The State is divided into 13 counties:

Counties.	Population.	County Towns.
Addison	24,940	Middlebury
Bennington	17,468	Bennington Manchester
Caledonia	20,967	Danville
Chittenden	21,765	Burlington
Essex	3,981	Guildhall
Franklin	24,525	St. Albans
Grand Isle	3,696	North Hero
Orange	27,285	Chelsea
Orleans	13,890	Irasburg
Rutland	31,294	Rutland
Washington	21,378	Montpelier
Windham	28,746	Newfane Windsor
Windsor	40,625	Woodstock.

Population at Different Periods.

1790	85,416
1800	154,465
1810	217,718
1820	235,764
1830	280,657.

The capital of the State is the little town of Montpelier, situated in a wild and rugged region, between the eastern and western chains of mountains, at the junction of the north and south branches of the Onion River. Here is a handsome State-house of granite, recently erected, together with the public buildings of the county. The population of the town is 1792. West of the mountains are several flourishing towns, which enjoy the advantage of an easy communication with Lake Champlain, and through it with the Hudson and St. Lawrence. St. Albans is a neatly built town on a small bay, with an active and increasing trade, and containing 2375 inhabitants. Further south is Burlington, the largest town in the State, and the principal commercial place on the lake. It is pleasantly situated on a gently rising slope, overlooking the lake, and it has an excellent harbour. Here are the county buildings and the University of Vermont, and at the falls of the Onion river there are some manufactories. The population is 3526. The city of Vergennes, with 1000 inhabitants, is accessible to Lake vessels, and the American squadron on the Lake was fitted out here in 1814. The falls in the river afford some good mill-seats. Above Vergennes is Middlebury, which contains some mills, and a college. Marble of a good quality is quarried here. Population, 3468. Higher up the river is Rutland, containing quarries of marble, several manufacturing establishments, and the public buildings of the county, with 2753 inhabitants. On the same side of the mountains, in the southern part of the State, is Bennington, in the neighbourhood of which are found limestone, marble, and iron. Here are some mills and iron-works, and a population of 3419. A detachment of British troops was captured here by General Stark and the Green Mountain Boys, in 1777.

Crossing the mountains, and entering the rich valley of the Connecticut, we find a number of thriving towns and neat villages, lining its fertile meadows. By means of several short canals, boats are enabled to ascend the river above Newbury; the principal of these cuts is at Bellows' Falls, where a fall of fifty feet is overcome by nine locks, and an excavation of half a mile in length. Brattleboro' is a busy place of 2141 inhabitants, and containing some manufactories. A Lunatic Asylum is about to be erected here. Windsor is a neat town in a picturesque situation, with the lofty peaks of Ascutney Mountain towering above it. A small stream, which runs through the town, serves to carry the machinery of several manufacturing establishments, and there is a State Prison built of granite and conducted on the Auburn plan. Population, 3134. At the little village of Bellows' Falls, the river is suddenly contracted from 300 to 16 or 20 feet wide, and rushes with great impetuosity through a narrow chasm cut in the solid rock, having a fall of nearly 50 feet in a half of a mile. Woodstock, with 3044 inhabitants, lies a little off from the river, and higher up, but on the Connecticut, is Norwich; civil engineering and other practical sciences receive particular attention in the institution here, styled the Norwich University.

4. *Commonwealth of Massachusetts.*

This State has a general breadth of not more than 50 miles, with a length of about 140; but in the eastern part it suddenly expands to the breadth of 90 miles, and shoots a long, narrow tongue of sand into the ocean, which extends nearly 50 miles beyond the main land. It lies between 41° 15′ and 42° 52′ N. lat., and between 69° 50′ and 73° 20′ W. long., covering an area of 7800 square miles. Although the surface is generally hilly, and in some places rugged, no part of it rises to an elevation of 4000 feet; the insulated peak, called Saddle Mountain, in the northwestern corner of the State, the loftiest summit within its limits, being not more than 3600 feet above the sea. On the western border is the Taconic, or Tagkannuc Ridge, lying between the valleys of the Housatonic and the Hudson, and attaining in Mount Washington, in the southwestern corner of the State, the height of 3150 feet. Separating the valleys of the Housatonic and Hoosac from that of the Connecticut, is a prolongation of the Green Mountains of Vermont, of inconsiderable elevation, and east of the Connecticut the country is traversed by the continuation of the White Mountains, in which is the conical peak of Wachusett, 3000 feet high. Eastward of this range the surface is, for the most part broken by gentle swells, and in the southeast spreads out into a level sandy plain. Every part of the State is well watered, but in general the streams are more useful for agricultural and mechanical purposes, than as channels of communication. The Merrimack affords a sloop navigation of twenty miles to Haverhill, and the Connecticut has been made navigable for boats through the State, by the aid of short canals at South Hadley and Montague. The Nashua and Concord, tributaries of the former; Miller's and Chickapee Rivers, entering the latter on the left, and Deerfield and Westfield Rivers, on the right; Charles River, reaching the sea at Boston, and Taunton River, which falls into Narraganset Bay, are useful mill streams.

There are rich and extensive meadows on the Housatonic, Connecticut, and Merrimack, and much of the soil is moderately productive; some portions of the western sections are too rugged, and some of the eastern too sandy for profitable cultivation, but the central part contains many fine farms, and in the vicinity of the numerous commercial and manufacturing cities and towns of the sea-coast, the cultivation is often carried to a higher degree than is practicable in districts more remote from a market. Taken as a whole, Massachusetts is the best cultivated State in the Union; both the Legislature and Agricultural Societies have made great efforts to encourage a skilful and thrifty husbandry, and to introduce the best foreign breeds of sheep and cattle. Iron, chiefly the bog iron ore, is abundant throughout the State, and is extensively worked. Lead occurs in the Connecticut valley; sulphuret of iron is found in the central districts, where it is used in the manufacture of copperas; granite and syenite of an excellent quality, is plentifully distributed in the east and centre, and is much used for buildings; good marble is quarried in Berkshire county, and freestone in the valley of the Connecticut; soapstone and limestone occur in different parts of the State; plumbago, from Worcester and Sturbridge, is used in the manufacture of lead-pencils and crucibles; the white clay of Martha's Vineyard, furnishes alum; and anthracite coal is now obtained from the greywacke district to the west of Taunton River.

But the most important branches of productive industry in Massachusetts, are the fisheries, navigation, commerce, and manufactures. The shipping belonging to this State amounts to about 480,000 tons, being greater than that of any other State, and nearly one-third of the whole tonnage of the country; 1389 vessels, of 250,188 tons, entered, and 1265 vessels, of 214,930 tons, cleared at the different ports in 1834; the value of the imports for the same year was 17,672,129 dollars; of exports, 10,148,820, of which 4,672,746 were of domestic produce; there is also an active and extensive coasting trade carried on with all parts of the Union, the imports being chiefly raw produce and provisions, and the exports manufactured articles, such as cotton and woollen goods, hats, shoes, furniture, clothes, buttons, combs, hardware, wooden-ware, whips, palm-leaf and straw hats and bonnets, dried and pickled fish, whale oil, spermaceti candles, soap and tallow candles, carriages of all sorts, saddlery, paper, glass, &c. The herring, or alewive, and mackerel fisheries, are carried on along shore; the cod fishery chiefly on the great banks and the Newfoundland and Labrador coasts; the whale fishery in the South Atlantic, the Pacific, Indian, and Antarctic Oceans. Two hundred and ninety vessels, of about 90,000 tons, with upwards of 7000 men, were engaged in the whale fishery in 1834, and during the year 1835 there were brought in 4,420,000 gallons of sperm oil, and 1,900,000 gallons of whale oil, with upwards of 1,200,000 pounds of whalebone, worth in all nearly five million dollars. In 1834 there were inspected 252,880 barrels of mackerel; the cod fishery is also largely prosecuted from almost all the towns on the coast, and yields annually upwards of 400,000 quintals of fish, and 6000 barrels of oil, of the value of more than one million dollars.

Massachusetts is more extensively engaged in manufactures than any other State; in 1831, there were in the State 250 cotton-mills; with 339,777 spindles, and 8981 looms, consuming 24,871,981 pounds of cotton, and producing 79,231,000 yards of cloth; at present, the number of the mills exceeds 300. Some wool is grown in the State, particularly in the hill towns of the western part, but much of the raw material consumed in 125 woollen-mills, is brought from other States and from foreign countries. Broadcloths, flannels, satinets, blankets, carpets, &c. are among the manufactures; there are also numerous carding machines, in which the wool used in household manufactures is brought to be carded. The annual value of woollen manufactures is about 8,000,000 dollars. The silk manufacture has also been successfully introduced. The iron manufactures, including nails, machinery of all sorts, agricultural and mechanical instruments, hollow ware, cutlery, &c., are also very extensive. The making of boots and shoes occupies the whole population of several considerable towns, and large quantities are exported. Other productions of manufacturing industry have already been enumerated; many of these are carried on in families, and furnish an important source of gain to the rural population. The braiding and plaiting of straw and palm-leaf hats and bonnets, is a branch of household industry, which, though but lately introduced, already employs several thousand females, and brings into the State many hundred thousand dollars annually. Of a similar character, but locally more confined, is the manufacture of brooms from the broom-corn (*Holcus sorghum*), about one million being annually made. Ship-building is also extensively carried on; the shipping built in 1833 amounting to 33,000 tons. Salt is manufactured from sea water, chiefly by solar evaporation, to the amount of about 500,000 bushels a year; and Epsom and Glauber salts are obtained from the same source. The preparation of India Rubber cloth, and the making of it up into various articles of clothing and family use, although of recent date, already employs several large establishments. Dye-stuffs, bleaching salts, and numerous other chemical articles, used in the various manufactures, are also produced in considerable quantities.

The roads in Massachusetts are generally good, and several important works have been executed to facilitate the intercommunication between different sections. The Middlesex Canal extends from Boston to Lowell, 26 miles; the Blackstone Canal from Worcester to Providence, Rhode Island, 45 miles; and the Hampshire and Hampden Canal, 20 miles in length, is a continuation of the Farmington Canal, from Southwick, on the Connecticut line, to Northampton. Rail-roads have been constructed from Boston to Lowell, 25 miles, of which a continuation to Nashua, 15 miles, and a branch to Andover, are now in progress; from Boston to Providence, 42 miles, with a branch of 10 miles to Taunton; and from Boston to Worcester, 43 miles. The Western Rail-road, which has been begun, will extend from Worcester, through Springfield and West Stockbridge, to the New York line, 118 miles, where it will be connected with Albany, Hudson, and Troy, by roads already in progress. The Eastern Rail-road, also in progress, is to run from Boston, through Salem and Newburyport, to the New Hampshire line, 40 miles, where it will be connected with the Portsmouth and Portland Rail-road.

The first English settlement in New England, was made at Plymouth in 1620, by a company of [illegible], who fled from persecution at home. It was their intention to settle in Virginia, [illegible] by accident or treachery, they were thrown upon the inhospitable shores of New England, and in an inclement season, and thus laid the foundation of Plymouth colony. The colony of Massachusetts Bay was founded at Salem in 1628, and Boston was settled in 1630. The colony of Massachusetts Bay, and that of Plymouth, or the Old Colony, as it is called, were under distinct governments till 1692, when, by a royal charter, they were united. From this period, the governors of the colony were appointed by the king, and the power of annulling the colonial laws was assumed as a royal prerogative. This regulation continued until the revolution, and the monarchical principle thus infused into the Massachusetts democracy, occasioned an almost perpetual struggle, between the republican spirit of the people and the royal authority. Massachusetts stood ever foremost in opposition to the oppressive acts of the mother country, and the American revolution began at Boston.

The Legislature of Massachusetts consists of a Senate and House of Representatives, together styled the General Court. The latter are chosen by the towns in proportion to the population; the former are chosen by the counties, their numbers being proportioned to the taxes paid by each county. They are chosen annually by the people. The executive, consisting of a Governor, styled his Excellency, a Lieutenant Governor, styled his Honour, and an Executive Council of nine members, are also chosen annually; the Council by the Legislature, and the Governor and Lieutenant Governor by the people. All resident citizens of a year's standing, who pay taxes, are entitled to vote. The Judges are appointed by the Governor and Council, and hold their office during good behaviour. The General Court holds its sessions in Boston.

This State has always been noted for its great attention to the education of its citizens; from the first settlement of the country provision was made for the gratuitous instruction of the whole community, and this policy has been fondly cherished up to the present time. Each town or district containing 50 families, is obliged by law to provide a school or schools equivalent in time to six months for one school in a year; those containing 100 families, to 12 months; and those containing 150, to 18 months; and the towns are required to assess taxes for the support of these schools, in the same manner as other town-taxes are assessed. In general a much greater sum is raised for this purpose than is required by law. It appears, by returns made at the close of 1835, by 277 towns (no returns having been received from 30 towns), that they contained 2397 school districts, with 73,254 males, and 68,823 females, between the ages of four and sixteen years, attending the schools; there were 2058 male, and 2548 female instructers, and the amount raised by tax for the support of the schools was 340,858 dollars; in addition to which, 78 towns have school funds, and 22,868 dollars were raised by voluntary contributions. There are also 66 academies in the State, which, with the private schools, are attended by 25,000 scholars. Harvard University, at Cambridge, is the oldest and best endowed institution in the country; it has a library of 40,000 volumes, and instruction is given by 30 teachers in the various branches of a liberal education; law, theological, and medical schools are connected with it. William's College, at Williamstown, and Amherst College, at Amherst, are also respectable institutions. The prevailing religious sect are the Congregationalist; the Baptists are also numerous; after these come the Methodists, Universalists, Episcopalians, Christians, Roman Catholics, and Friends, with some Presbyterians, Swedenborgians, or New Jerusalem Church, and Shakers.

Massachusetts is divided into 14 counties: viz.

Counties.	Population.	County Towns.
Berkshire	37,835	Lenox
Franklin	29,501	Greenfield
Hampden	31,639	Springfield
Hampshire	30,254	Northampton
Worcester	84,355	Worcester
Dukes	3,517	Edgarton
Nantucket	7,202	Nantucket
Barnstable	28,514	Barnstable
Bristol	49,592	New Bedford Taunton
Norfolk	41,972	Dedham
Plymouth	43,044	Plymouth
Suffolk	62,163	Boston
Middlesex	77,961	Cambridge Concord
Essex	82,859	Salem Newburyport Ipswich.

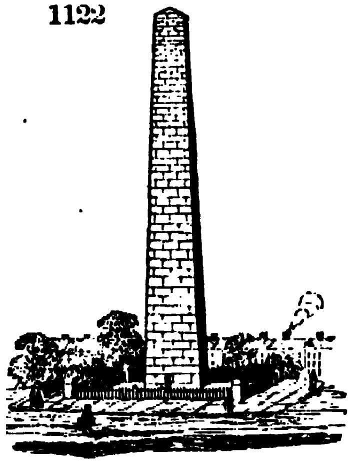
Population at Different Periods.

1790	378,717
1800	423,245
1810	472,040
1820	523,287
1830	610,408.

Boston, the capital of Massachusetts, and the principal city of New England, is pleasantly situated upon a small hilly peninsula on Boston Bay, with a safe and commodious harbour, deep enough to admit the largest vessels, capable of containing 500 ships at once, and so completely landlocked as to be perfectly secure. Nearly 40 small islands are scattered over the Bay, which serve at once to protect the inner harbour from the winds, and to give the charm of variety to the prospect of the sea. Several forts, erected on these islands, command the approaches to the city. Beside the main peninsula, the city comprises another peninsula, called South Boston, connected with the former by two free bridges, and the Island of East Boston, with which communication is kept up by steam ferry-boats. Four wooden bridges also connect the city with Charlestown and Cambridge; a solid causeway of earth unites it to Brookline, and a narrow neck of land, which has been raised and widened by artificial constructions, joins it to Roxbury. The population, which in 1800 was 24,937, in 1820, 43,298, and in 1830, 61,392, amounted, in 1835, to 78,603, including 1857 free coloured persons; but if we include the neighbouring towns, which in fact form so many suburbs of the city, the population exceeds 100,000. Most of the streets are narrow and crooked, but the houses are generally well built, and the whole city is perforated by subterranean sewers, which contribute greatly to the cleanliness of the crowded streets. The State-house, fronting a fine park of 75 acres, called the Common, and standing on the most elevated part of the city, 110 feet above the Bay; the market-house, a handsome granite edifice, two stories high, 536 feet in length by 50 in breadth; the court-house, also of granite, 176 feet long, 57 high, and 54 wide, with a massive Doric portico at each front; the City-hall, or old State-house, and Faneuil-hall, more interesting from historical associations than from their architectural merits; and the Massachusetts General Hospital, a handsome granite building, 168 feet in length, surrounded by open grounds of four acres in extent, are the principal public buildings. The Institution for the Blind, in which are about 50 pupils; the Boston Athenæum, which has a library of 30,000 volumes and a picture-gallery; the Medical School of Harvard University; the Eye and Ear Infirmary; the Houses of Industry, Reformation, and Correction, also deserve mention. The bridges and wharfs are remarkable for their great length: the Canal bridge is 2800 feet long; the West Boston bridge, 2760 feet, and some of the others exceed 1500 feet; the Mill Dam, or Western Avenue, consists of two solid parallel walls of stone, 60 feet apart, with the space between them filled up with earth, and is 8000 feet long; with a cross dam of similar construction, it encloses two large basins, one of which being filled by every tide, is made to discharge its waters into a second, or receiving basin, and thus furnishes a perpetual water-power for mills. The wharfs have been constructed in a somewhat similar manner; Central wharf, 1380 feet long by 150 wide, contains 54 large warehouses, 4 stories high; Long wharf, 1800 long by 200 in width, has 76 warehouses equally spacious; Commercial wharf is 1100 feet by 160, with a range of 34 granite warehouses. As a commercial city, Boston is the second in the United States in the amount of its business; in the beginning of 1834, the shipping belonging to the port, was 189,394 tons; entered in 1834, 183,082 tons; cleared, 156,800 tons; duties paid, 2,845,884 dollars; annual value of imports, 16,000,000; of exports, 10,000,000 dollars. The number of banking institutions is 28, with an aggregate capital of 24,980,000 dollars; of insurance companies, 30, with a capital of about 9,000,000. This city has ever been distinguished for its attention to education; the free schools are, the Latin School, in which the learned languages and mathematics are taught; the High School, for instruction in mathematics, natural and moral philosophy, and other useful branches; nine Grammar and Writing Schools, in which the study of geography, arithmetic, and history is added to reading and writing; 57 Primary Schools, and one African School for blacks. There are also numerous private schools for children of both sexes. The American Academy of Arts and Sciences, the Historical Society, and the Natural History Society, are among the learned societies. There are 51 Churches, two Theatres, an Odeon, &c. Boston was founded in 1630, and having taken the lead in the opposition to the ministerial plan of taxing the colonies, its port was closed in 1774, and a British garrison was stationed there to bridle the town; it was consequently besieged by the American forces during the winter of 1775–76, and in March the British troops were compelled to evacuate the place.

Charlestown, which is connected with Boston by three bridges, stands on a lofty peninsula, the centre of which is occupied by Bunker Hill, the theatre of the celebrated affair of June 17, 1775, during which the town was burnt to the ground. The more compact part of the town lies at the base, and on the lower parts of the hill, and although irregularly built, commands many fine views of the harbour and the surrounding country. The Bunker Hill Monument (*fig.* 1122.), of granite, is yet unfinished; it will form an obelisk rising to the height of 220 feet from its base, which is 50 feet square. The United States' Dock Yard, comprising a number of store-houses, arsenals, magazines, barracks, and slips, with a graving, or dry dock, built of hewn granite in the most solid manner, at the cost of 677,090 dollars, covers an extent of about sixty acres. The Naval Hospital is a fine granite edifice, pleasantly situated in the village of Chelsea, which is connected with Charlestown by a long wooden bridge. The Massachusetts State Prison, on the western side of the peninsula, is arranged and conducted on the Auburn plan, and the work of the prisoners more than pays the expenses of the establishment. In the same direction is the Maclean Asylum for the Insane, being a branch of the Massachusetts General Hospital; it consists of three large buildings, pleasantly situated on a rising ground, and surrounded by 15 acres laid out in gardens, groves, and walks; the patients are treated with great kindness, and are encouraged to engage in amusements, and work, and as much as possible in society. From the opening of the Asylum, in Oct. 1818, to January 1834, 1015 persons had been received; of whom 67 remained, 193 had not been improved, 362 had recovered and 283 had been benefited, and the remainder had died or eloped. The population of the town is 8787. Adjoining Charlestown is Cambridge, the seat of Harvard University, with 6071 inhabitants. There are also some manufactures here, of which that of crown glass is the most important. Mount Auburn, five miles from Boston, is a rural cemetery, occupying a tract of about 50 acres, consisting of several beautiful eminences and fine glens, covered with the native forest, and containing several pretty sheets of water. It has been tastefully laid out in burying lots, avenues, and lanes, which are bordered by ornamental shrubs and flowering plants, and an experimental garden of about 30 acres is attached to it. At Watertown, adjoining Cambridge, there is an United States' Arsenal. To the southwest is the little town of Brighton, noted for its cattle market, in which, in the year 1835, the sales were 51,096 beef cattle, 15,872 stores, 98,160 sheep, and 23,142 swine, of the total value of 1,878,032 dollars. On the northwest are Concord and Lexington, famous in the history of the revolution.

1122



Bunker Hill Monument.

The corner of the State lying between Charles River and the Merrimack, is thickly peopled and highly cultivated, although it contains much rocky land. Its coast is lined with numerous capacious harbours, the seats of active commerce and extensive fisheries, and the falls of the interior afford sites for some of the principal manufacturing towns in the country. Lynn, a neat and thriving town, whose inhabitants, beside making 2,000,000 pair of shoes annually, carry on the cod and whale fisheries, increased its population from 6138, in 1830, to 9847, in 1836. A long beach of smooth, hard sand terminates in the rocky little peninsula of Nahant, a favourite watering-place of the neighbouring towns. Marblehead, long the principal seat of the cod fishery, has of late turned its attention partly to mechanical industry, particularly to shoemaking, which occupies the winter leisure of many of its hardy fishermen. About 60 sail of small fishing vessels, manned by about 500 men and boys, are owned here. Population, 5150. The city of Salem, with 13,886 inhabitants, is noted for the commercial enterprise and industrious spirit of its citizens. It was long largely engaged in the East India and China trade, and its coasting and foreign trade is still considerable; but it labours under the disadvantage of not having a sufficient depth of water for the largest vessels. The inhabitants have lately engaged in the whale fishery, in which they employ 15 ships of 3500 tons; the whole shipping of the port amounts to 31,877 tons. The city is neatly built, and it contains an Athenæum, with 10,000 volumes; a Marine Museum, a valuable collection of natural and artificial curiosities belonging to the East India Marine Society, which is composed wholly of nautical men; nine banking institutions, with a capital of about two millions of dollars; six insurance companies, with a capital of 950,000 dollars; fifteen churches, and several charitable institutions. The manufactures are also considerable, consisting chiefly of leather, cordage, white lead, and alum. Beverly, connected with Salem by a bridge 1500 feet in length, has 4079 inhabitants, chiefly occupied in commerce and the fisheries; and Danvers is a busy town, with a population of 4228, containing 32 tanneries with 3000 vats, and a rolling and slitting mill, with 14 nail machines, producing 600,000 pounds of nails annually; 500,000 pair of shoes and boots are also made here yearly.

A vast block of syenite projecting about eight miles into the sea and forming the northern point of Massachusetts Bay, called Cape Anne, is occupied by the fishing town of Gloucester. Tonnage owned here, 14,528; population, 7513; the syenite quarries have lately become valuable, as the stone is easily worked, forms a handsome building material, and may be shipped with little trouble or expense. Beyond the cape is the handsome town of Newburyport, prettily situated on an eminence at the mouth of the Merrimack. Its foreign commerce was formerly more extensive than it is at present, and it labours under the disadvantage of a sand-bar at the mouth of the harbour; but its trade is still important, and the whale, mackerel, and cod fisheries, are also carried on from this place; tonnage, 21,535; population, 6388. Its situation at the mouth of the Merrimack enables it to engage advantageously in ship-building, and a cotton-mill, an iron-foundery, a stocking-factory, a comb-manufactory, producing 300 dozen combs daily, and some other manufactures also give profitable employment to the inhabitants. Crossing a fine suspension-bridge, over the Merrimack, we find the thriving towns of Salisbury and Amesbury, with flannel, satinet, and other manufactories, and higher up, at the head of sloop navigation, the pretty and busy town of Haverhill, with 3896 inhabitants. Again, on the south side of the river, we enter Andover, the seat of one of the most celebrated theological seminaries in the country, with a valuable library of 12,000 volumes; there are also three academies in the place, which contains 4540 inhabitants and several extensive manufacturing establishments.

The city of Lowell, the principal manufacturing town of the United States, stands between the Merrimack and Concord rivers, and derives its immense motive power from a fall of 32 feet in the former; the river is dammed back above the falls, and the water is conducted off by a canal one mile and a half long, 60 feet wide, and 8 deep, which has its outlet into Concord river; lateral canals carry the water from the main trunk to the different mill-sites, and discharge the waste water into the Merrimack and Concord. In 1820, the city formed a part of Chelmsford, and did not contain 100 inhabitants; in 1822, the first cotton-mill was erected here, and at present (1835) the population is 19,633, and there are in operation 20 cotton-mills, and two woollen-mills, with 116,800 spindles, and 3933 looms, producing annually 39,000,000 yards of cotton cloth, of which between 11,000,000 and 12,000,000 are printed; 300,000 yards of broadcloth and cassimeres; and 150,000 yards of satinets, beside Brussel and Kidderminster carpets, rugs, &c.; consuming 12,250,000 pounds of cotton, and 650,000 pounds of wool. There is also a machine-shop, which makes and repairs all the machinery for the mills, and constructs rail-road cars and engines. Four other large cotton-mills, with about 20,000 spindles, are also in part erected. The capital invested in the 23 mills in operation is 6,650,000 dollars; females employed, 5000; males, 1520. There are also here powder-mills, flannel-works, grist and saw-mills, glassworks, &c.

The southern line of Massachusetts Bay presents a strong contrast to the rock-bound coast of Cape Anne. The long, irregular peninsula of Cape Cod, about 75 miles in length by from 5 to 20 in breadth, consists chiefly of hills of white sand, destitute of vegetation, or producing only whortleberry bushes, low pitch-pine shrubs, or coarse wild grass, and blown about by the wind. The houses are in some places built upon stakes driven into the ground, with open spaces between for the sand to drift through. The Cape, notwithstanding, is well inhabited, and supports a population of 28,000. In the southwest part, the inhabitants live partly by agriculture and trading; but below Barnstable three-fourths of the population subsists by the fisheries and the coasting-trade. Salt is manufactured from sea-water in many places, and is used in curing the fish. The Cape is beset with dangerous shoals, and has long been the dread of navigators. Provincetown, at the extremity of the Cape, is a small town, in which seven-eighths of the land is an unoccupied waste of drifting sands or covered with beach grass; a partial supply of vegetables is procured in a few small gardens with great labour and expense, but the harbour is safe and accessible to large vessels. Barnstable, a considerable town, with 3975 inhabitants, has harbours on both sides of the isthmus; in that on the southern side, called Hyannis Harbour, a breakwater has been constructed by the general government. There are here extensive salt-works, and the fisheries and coasting trade are considerable. Sandwich, beside the same branches of industry, has several cotton, woollen, and nail factories, and large glass-works. Plymouth (*fig.* 1123.), further north, but in the same sandy tract, has a spacious but shallow harbour, and is chiefly remarkable as the place where the first settlement was formed in New England, Dec. 11 (21), 1620.

1123

Plymouth.

South of the Cape is the island of Nantucket, containing the town of the same name, with 7266 inhabitants, all crowded together close upon the harbour, which lies on the northern side. The island is merely a sand-bank 15 miles in length, by about 5 or 6 in breadth, slightly elevated above the ocean, and without a tree of native growth, or even a shrub of much size upon its surface. There are, however, some productive spots, and about 14,000 sheep and 500 cows are raised, which feed in one pasture, the land being held in common. The inhabitants are distinguished for their enterprise; they have about 75 ships engaged in the whale-fishery, and a considerable number of small vessels in the coasting trade; 64,545 tons of shipping are owned here, and 2000 men and boys belonging to the island are employed in navigation. Martha's Vineyard is somewhat longer than Nantucket, and contains considerable woodland. The inhabitants are mostly pilots and fishermen, but some salt and woollen cloth are made. Holmes' Hole, a safe and capacious harbour, on the northern coast, is an important station for ships waiting for favourable weather to pass Cape Cod.

Crossing Buzzard's Bay we reach New Bedford, the great seat of the whale-fishery; it is a handsomely built town, prettily situated on an eminence sloping gently down to the river, and it has a safe and capacious harbour. The population, which in 1830 amounted to 7592, at present exceeds 11,000. The shipping of the district, which includes several other towns on the bay, is 76,849 tons; nearly the whole of this is employed in the whale-fishery, and in 1835, 84,966 barrels of sperm and 49,764 of whale oil were brought in here. There are here ten large establishments, in which spermaceti candles are made and oil is prepared, four banks with a capital of 1,300,000 dollars, an insurance office, 14 churches and chapels, an academy, &c. Fall River, to the northwest, at the mouth of Taunton river, has a good harbour accessible to the largest vessels, and an almost inexhaustible amount of water-power, afforded by a small river of the same name, which has a descent of 136 feet. There are here 9 cotton-mills with 31,000 spindles, producing about 10,000,000 yards of cloth annually, and consuming 2,300,000 pounds of cotton; two calico-print works, which print annually 5,000,000 yards; a satinet manufactory, making 250,000 yards; a rolling and slitting-mill, yielding 700 tons of nails; two machine-shops; an iron-foundery, &c. The population exceeds 6000. Further up the river, at the head of sloop-navigation, is Taunton, with 6045 inhabitants, containing 8 cotton-mills, making 5,000,000 yards of cloth, a calico-printing establishment, which furnishes 250,000 pieces a year, nail-factories, yielding about 2000 tons of nails annually, a forge, Britannia-ware factory, paper-mill, shovel-factory, &c. Attleborough in the vicinity also contains 13,000 cotton-spindles, a metal-button manufactory, &c.

In the midst of a fine agricultural district in the centre of the State, is the neat and flourishing town of Worcester, whose population in 1835, was found to amount to 6624. It is a great thoroughfare, several of the most important routes from Boston passing through it, and the centre of a considerable inland trade. It contains six woollen and cotton mills, several paper-mills, machine-shops, &c. The hall of the American Antiquarian Society, with a valuable cabinet and a library of 12,000 volumes, and the Massachusetts Lunatic Hospital, designed particularly to receive insane paupers and criminals, and maniacs, are interesting institutions. Springfield, one of the most beautiful and thriving towns in New England, is delightfully situated in the rich valley of the Connecticut, and has from its position great advantages for inland trade and manufacturing operations. Here are six cotton-mills with 31,000 spindles, four paper-mills, five machine-shops, a sword-manufactory, grist and saw-mills, &c., together with a United States' Armoury in which are annually manufactured 16,500 stands of arms. Population, 6784. In the centre of this fine valley is the town of Northampton, delightfully situated in a charming region. Mount Holyoke, the termination of a trap range, which, extending from West Rock at New Haven, here crosses the Connecticut, overlooks the town and the surrounding country. The alluvial river-bottoms are unusually extensive in this vicinity. Northampton has 3613 inhabitants, and contains some woollen, paper, and other mills. Amherst, in the neighbourhood, is the seat of a college, a manual labour school, two academies, and some manufactures. Deerfield and Greenfield are the most important towns above Northampton. In the rough hilly country west of the Connecticut, the valleys of the Hoosac and Housatonic contain some considerable towns. In the former is Adams, in which are 20 cotton-mills, producing 4,000,000 yards of cloth a year, 4 satinet and 2 calico-printing works, 4 machine-shops, tanneries, &c. The Graylock, the highest peak of Saddle Mountain, and the loftiest in the State, is in this town. On the Housatonic is the pretty and flourishing town of Pittsfield, with 3570 inhabitants. Here are woollen and cotton-mills, manufactories of fire-arms, of cabinet-ware, &c. West Stockbridge, Stockbridge, and Lenox, are neat little villages in this district.

5. *State of Rhode Island and Providence Plantations.*

Rhode Island, although the smallest of the States of the Union, is considerably larger than many of the petty sovereignties of the German Confederation. It lies on both sides of Narragansett Bay, between Connecticut and Massachusetts, being 42 miles in length, and in some parts 35 in breadth, and having an area of 1225 square miles, of which about one-tenth is water. The surface of the State is in general broken and hilly, and the soil is moderately productive, but difficult of cultivation; on the islands it is more fertile. The rivers are small, with courses of not more than fifty or sixty miles, and discharging an inconsiderable quantity of water; but as they descend from two hundred to four hundred and fifty feet, and are steady in their supply of water, they furnish a great number of valuable mill-seats, and they have been extensively applied to manufacturing purposes. The Pawtucket, Pawtuxet, and Pawcatuck, are the principal streams. Narragansett Bay is a fine sheet of water, extending more than 30 miles inland, and containing several good harbours. It is about ten miles wide in the lower part, but a considerable portion of this space is occupied by islands. Some iron ore, marble, and freestone are found, and anthracite coal occurs in extensive beds, but, although it has been pronounced of a good quality, it has not been much worked. It is in the same greywacke formation with the Massachusetts coal.

The inhabitants have occupied themselves with commerce, the fisheries, and manufactures, rather than with agriculture. There were 44,963 tons of shipping belonging to the State in 1834, and 35 ships sailed to the whale-fishery. The annual value of imports is about half a million of dollars. In 1832, there were in the State 119 cotton-mills, with 238,877 spindles, and 5856 looms, producing 39,000,000 yards of cotton cloth annually; 22 woollen-mills; 5 bleacheries; 2 calico-print works; 10 iron-founderies; 30 machine-shops; 40 tanneries, &c. Since that period the number has been much increased; there is a silk-manufactory in Providence, and lace is made in Newport.

The first settlement was made in this State by Roger Williams, a minister of Massachusetts; who, having been banished from that colony on account of his religious tenets, founded Providence, as a shelter for distressed consciences, in 1636. The island of Rhode Island was settled two years after, by other fugitives from religious persecution in Massachusetts, and, in 1644, Williams obtained a charter, uniting the Rhode Island and Providence Plantations under one government. In 1663, a new charter was granted by Charles II., which, with some modifications, still forms the constitution of the State. Rhode Island was occupied by British forces during the war, who committed considerable ravages, particularly in cutting down the trees, which have never since been replaced.

The people of Rhode Island not having made a constitution for themselves, the government is still conducted according to the provisions of the royal charter of 1663. The official style is the State of Rhode Island and Providence Plantations. The Governor and Lieutenant Governor are chosen annually by popular vote. The legislature, styled the General Assembly, consists of two houses, a Senate, chosen annually, and a House of Representatives, chosen semi-annually, which meet four times a year. The judges and other civil officers are appointed annually by the General Assembly. The State appropriates 10,000 dollars a year for the support of common schools, and a somewhat larger sum is raised by the towns for the same purpose, in addition to which, considerable sums are raised by individual subscription, in order to keep the free schools open some time longer than the public funds would admit. There are in the State 323 free schools, with upwards of 17,000 pupils. Brown University, at Providence, is a respectable institution on the plan of the other New England colleges. The Baptists and Congregationalists are the most numerous sects; the Episcopalians and Methodists are also numerous, and there are some Friends, Roman Catholics, and Universalists.

Rhode Island is divided into the five following counties:—

Counties.	Population.	County Towns.
Providence	47,010	Providence
Bristol	5,446	Bristol
Newport	16,335	Newport
Kent	12,789	East Greenwich
Washington	15,411	South Kingston.

Population at Different Periods

1790	69,110
1800	69,122
1810	77,031
1820	83,059
1830	97,199.

The principal city of Rhode Island is Providence, the second in New England in point of population, wealth, and commerce. It is well built and prettily situated at the head of Narragansett Bay, and is accessible to the largest merchant vessels, except when the navigation of the bay is closed by ice; it carries on an active coasting and foreign trade, supplying a considerable and populous district with colonial and other articles, and exporting the products of its agricultural and manufacturing industry. The population of the city increased from 16,833 in 1830, to 19,277 in 1835. Here are 16 banks with a capital of about five millions; five cotton-mills, with 10,800 spindles; 3 bleacheries; 4 dye-houses; 7 machine-shops; 4 iron-founderies, &c. Among the public buildings are the State House, the Halls of Brown University, the arcade, a handsome granite edifice, 14 churches, &c. Steam-boats, of the largest and finest class, keep up a daily communication with New York, during the greater part of the year; the Blackstone canal, and Boston and Providence rail-road terminate here, and a continuation of the latter to Stonington in Connecticut, is now in progress. Pawtucket river, above Providence, is the seat of extensive manufactures. North Providence, on the Massachusetts border, contains the manufacturing village of Pawtucket, opposite which is the town of Pawtucket in that State. The whole manufacturing district is also commonly called Pawtucket, and it contains 20 cotton-mills, with 50,000 spindles, beside machine-shops, calico-printing works, iron-works, &c. There is a population of about 6000 souls on both sides of the river. Above this the Pawtucket takes the name of the Blackstone, and furnishes mill-seats which have created the village of Woonsocket Falls, also situated on both sides of the river, in the townships of Smithfield and Cumberland. There are also manufacturing establishments in other parts of Smithfield, making in all about 50,000 spindles. The population at the Falls is about 3000. Warwick, on the Pawtuxet river and Narragansett Bay, is a manufacturing and fishing town, with 5529 inhabitants. There are 50,000 spindles running in this town, and in the little town of Coventry, at the head of the river, there are 20,000.

Bristol, on the eastern shore of the bay, is a busy town, with 3054 inhabitants actively engaged in the foreign and coasting trade and whale fishery; in the rear of the town rises Mount Hope, the seat of the celebrated Indian Sachem, Metacom, called by the English, King Philip. Fronting the town lies the beautiful and highly cultivated island of Rhode Island, which, beside some villages, contains the town of Newport, once one of the principal towns in the colonies, and still a favourite summer resort, on account of its pleasant situation, the refreshing coolness of the sea-breezes, and its advantages for sea-bathing. The harbour is one of the finest in the world, being safe, capacious, and easy of access, and is defended by an important work called Fort Adams; but trade has mostly deserted the town, and now centres chiefly in Providence. Newport was occupied by the British forces in 1776, and was besieged for some time by the Americans. Population, 8010. Prudence and Conanicut Islands in the Bay, and Block Island, at the entrance of Long Island Sound, belong to this State. The latter, although destitute of a harbour, has nearly 2000 inhabitants, engaged in the fisheries.

6. *State of Connecticut.*

Lying between Massachusetts and Long Island Sound, and extending from Rhode Island to New York, Connecticut is 90 miles in length, from 71° 50′ to 73° 43′ W. long., and 70 in breadth, from 41° to 42° N. lat., with an area of 4764 square miles. The surface of the country is for the most part hilly, but it is nowhere mountainous; a range of hills traverses the western part, between the Housatonic and the Connecticut, and there is a similar range to the east of the latter, forming the prolongation of the White Mountains; but they are of inconsiderable elevation. A trap range of no great height extends from the West Rock, at New Haven, northerly, between the Farmington and the Connecticut, which it crosses at Mount Holyoke, in Massachusetts. These ranges are, however, rather a succession of groups and eminences than continuous ridges. Connecticut is well watered, but most of the streams are small, and of little importance in navigation.

The principal is the Connecticut, which, after pursuing a pretty direct course southwardly, suddenly turns to the southeast, at Middletown, and enters Long Island Sound; there is a sand-bar at its mouth, but vessels drawing 10 feet of water can go up to Middletown, and those of 8 feet draft to Hartford, 50 miles. The river Tunxis, or Farmington, which rises in Massachusetts, and runs to the south, abruptly changes its direction to the north, until, after breaking through the trap range, here called the Talcott Mountains, it again flows southwardly into the Connecticut. The Housatonic has a course of about 150 miles, and a sloop navigation of 12 miles, above which it is much broken by falls. The Thames is navigable for small sea vessels to Norwich, 15 miles, at which place it is formed by the confluence of the Quinebaug, Shetucket, and Yantic, useful mill-streams.

The whole coast of the State lies upon Long Island Sound, which is an extensive gulf, or channel, being 140 miles in length, and 25 miles broad in the widest part. It is somewhat narrow at the eastern entrance, and expands in the middle. Toward the west it gradually contracts till it joins the harbour of New York by a narrow and crooked strait, called East River. It has good anchoring places, and admits of a free navigation throughout its whole extent for the largest ships, but in the East River there is a dangerous whirlpool, at a spot called Hell Gate, where the current is contracted by the rocky shores, rendering, at certain seasons of the tide, the navigation hazardous.

The soil is generally productive, but not highly fertile, and, in general, is more suited to grazing than tillage. There are, however, fine rich meadows on the rivers, particularly the Housatonic and Connecticut. The Connecticut farmers are distinguished for their skill and industry, and much care has been bestowed on the cultivation of the land. Cider, butter, and cheese, beef, pork, and live stock, are exported in considerable quantities. In 1830, there were in the State 331,054 sheep, 219,783 horned cattle, and 32,358 horses and mules. The cultivation of the mulberry tree, and the breeding of silk-worms have lately been successfully prosecuted. Iron ore of good quality is found in abundance; copper has been worked in Granby, where it occurs at the junction of the green-stone and new red sand-stone formations. Marble and free-stone quarries furnish excellent building materials. The fisheries are carried on from several of the ports, and there are valuable shad fisheries on the rivers. There are about 12,000 tons of shipping from this State in the whale fishery, and, in 1834, 30,000 barrels of whale and sperm oil were brought in. The coasting trade is considerable, but most of the foreign trade is carried on through New York; tonnage in 1833, 54,528.

The manufactures, taken in the aggregate, are of great value, but many of them are entirely in the hands of the rural population, and there are few large establishments in the State. The Connecticut wares are well known all over the country, and are often carried from town to town to the most remote quarters, by the thrifty pedlars from the same State. Wooden clocks, wooden and horn combs and buttons, tin and wooden ware, implements, and utensils of various descriptions, &c. are among the products of manufacturing industry. In 1832, there were in the State 104 cotton-mills, with 140,000 spindles, and 2800 looms, manufacturing annually upwards of 20,000,000 yards of cloth and 1,200,000 pounds of yarn, and consuming above 9,000,000 pounds of cotton; 80 woollen factories, producing yearly 290,000 yards of broadcloth, 529,078 yards of flannels, 44,000 yards of cassimeres, 808,915 yards of satinet, 344,000 yards of carpeting, &c., and consuming 1,575,000 pounds of wool; the annual value of cotton and woollen goods was about 3,250,000 dollars; of iron manufactures, 200,800 dollars; of axes, 345,500; of boots and shoes, 500,000 dollars; of buttons and combs, 305,500; of paper, 546,000 dollars; of coaches and wagons, 546,000, with other articles, making an aggregate of 8,000,000 dollars.

Farmington canal extends from New Haven to the Massachusetts line, 56 miles, whence it is continued to Northampton by the Hampshire and Hampden canal. Enfield canal, 5½ miles in length, serves to overcome a fall in the Connecticut, and supplies valuable mill-seats. A rail-road is in progress from Providence to Stonington, in this State, 45 miles, intended to be connected by a steam ferry-boat with the termination of the Long Island rail-road. Another rail-road is also in progress between New Haven and Hartford, a distance of 40 miles.

The population, which, in 1790, amounted to 237,946, was only 297,675 in 1830, showing an increase of less than 26 per cent. in 40 years; in which period the population of the whole country had more than trebled. This, however, is owing to the current of emigration, which has steadily set from this State into New York, Pennsylvania, Ohio, Indiana, Michigan, Illinois, and other States south and west, and which has truly made Connecticut the mother of mighty States.

Connecticut consisted originally of two colonies; Hartford, settled by emigrants from Massachusetts in 1635, and New Haven, by colonists from England in 1638. The two colonies were united under one government, by a charter of Charles II., in 1662. In 1686, this charter was suspended by James II., and Andros, who had been appointed governor of New England, was sent to assume the government. Repairing with a body of troops to Hartford, he demanded the charter. The instrument was accordingly brought into the hall in the evening, with the intention of its being surrendered. But the lights were suddenly extinguished, and the charter was carried off and secreted by some of the colonists in the hollow of a tree, which is still called the charter oak. When Andros was deposed in 1689, the charter was resumed, and the government was administered under it until 1818, when the present constitution was formed. The Governor and Lieutenant Governor, and the Legislature, styled the General Assembly, are chosen annually by the people, the Senate in districts, and the House of Representatives by towns; suffrage is virtually universal. The Judges are appointed by the General Assembly, and hold their office during good behaviour. The Assembly meets alternately at Hartford and New Haven.

Common schools are supported by the proceeds of the school fund belonging to the State, which are distributed among the school districts in proportion to the number of children in each, between the ages of four and sixteen years: the money thus distributed is applied solely to paying the expense of instruction, the other charges being paid by the districts. The number of children of the above description is about 84,000; the school fund amounts to about 1,930,000 dollars, and the income is about 84,000 dollars. There are also upwards of 30 academies and high schools in the State, and three colleges, Yale College, at New Haven, Washington College, at Hartford, and the Wesleyan University, at Norwich. Yale College is one of the oldest and most respectable, and the most frequented of the collegiate institutions in the country; attached to it are a theological department, a medical institute, and a law school; the duties of instruction are performed by 27 teachers. The Congregationalists are the most numerous sect; after them rank the Baptists, Methodists, and Episcopalians; and there are some Universalists, Roman Catholics, and Shakers.

Connecticut is divided into 8 counties:—

Counties.	Population.	County Towns.
Windham	27,082	Brooklyn
New London	42,201	New London Norwich
Tolland	18,702	Tolland
Hartford	51,131	Hartford
Middlesex	24,844	Middletown Haddam
New Haven	43,847	New Haven
Litchfield	42,858	Litchfield
Fairfield	47,010	Fairfield Danbury.

Population at Different Periods.

1790	238,141
1800	251,002
1810	262,042
1820	275,202
1830	297,650

New Haven, the principal city of the State, is beautifully situated on a small bay making up from Long Island Sound, in a large plain surrounded on three sides by lofty and precipitous hills, the termination of the trap range, which traverses the State; East Rock and West Rock are above 350 feet high. The harbour is safe and spacious, but it is shallow and gradually filling up. The city is regularly laid out, and neatly built, chiefly of wood; many of the houses have gardens, or neat grounds, attached to them; some of the principal streets are bordered by rows of shade trees, and the principal square is finely ornamented in the same manner. Among the public buildings are the State House, the State Hospital, the Halls of Yale College, ten Churches, &c. One of the wharfs here is 3943 feet in length. The college buildings are four halls, containing the dormitories of the students, a chapel, two halls containing recitation and lecture rooms, the chemical laboratory, the common's hall, in which is the best mineralogical cabinet in the United States, the picture gallery, &c. The coasting and foreign trade of New Haven is considerable; steam-boats and packets keep up a regular and easy communication with New York; and there are some extensive manufactories, particularly in fire-arms, carriages, &c. The population is 10,678. On the summit of West Rock is a small cave, in which Goffe and Whally, two of the regicides, were concealed, and which is still called the Judges' Cave. Bridgeport, southwest of New Haven, is a busy, thriving town, with a good harbour on the Sound. In the interior are Danbury and Litchfield, with some manufactures.

Entering the Connecticut valley, we find, at the head of sloop navigation, the thriving city of Hartford, on the right bank of the river, a neat and pleasant town, with considerable coasting trade. It stands in a fertile and highly cultivated district, abounding in neat and flourishing villages, which enjoy the advantages of numerous mill-seats, and easy communication with the sea. The city has at present a population of 8800, a considerable increase since 1830, when it contained 7076 inhabitants. Steam-boats run daily between Hartford and New York, and several small steam-packets and tow-boats are employed on the river above. The manufacturing establishments are mostly on a small scale, but they are numerous, and the aggregate of their annual produce is about 1,000,000 dollars; the principal branches are printing and publishing, shoemaking, the manufacturing of saddlery, cards and wire, wearing apparel, &c. Among the public buildings are a State House, City Hall, 12 Churches, the Asylum for the Deaf and Dumb, Retreat for the Insane, &c. The Asylum for the Deaf and Dumb, the first institution of the kind established in America, was founded in 1816, and has about 140 pupils, who receive instruction in the various branches of useful learning, and acquire a knowledge of the useful arts. Several of the New England States have made appropriations for the support of their indigent dumb here. Below Hartford is Wethersfield, surrounded by extensive rich meadows, and noted for its great onion crops. The State Prison here is admirably conducted on the Auburn plan, and yields a revenue to the State. The city of Middletown is accessible to vessels drawing ten feet of water, and its coasting and foreign trade is considerable. The situation of the town is pleasant, and the houses and public buildings neat. Its manufactures are also pretty extensive, comprising cotton and woollen goods, fire-arms, paper, machinery, &c. The population of the city is 2965, that of the township 6892; and we may here remark, that the townships of Connecticut are of considerable extent, often containing several little towns at the distance of several miles from each other; thus the township of Middletown has an area of about 60 square miles, and contains three or four towns, or villages, beside the city. The population of a township, as given in the census, is not, therefore, any criterion of the size of the town of the name; as in a township of several thousand inhabitants, there is often no settlement or collection of houses of more than a few hundred souls. This remark also applies, in some degree, to some other New England States. Saybrook, at the mouth of the river, was the first spot occupied by Europeans in Connecticut, and the ground was regularly laid out for a large city, but the anticipations of its founders have not been realized.

In the eastern part of the State, at the mouth of the Thames, stands the city of New London, the principal commercial town in Connecticut, with one of the best harbours in the country, accessible, safe, and spacious. On account of the bar at the mouth of the Connecticut river, New London serves, in some degree, as the port of that river. Its trade is considerable; upwards of 40 ships sail from here to the whale fishery, and the shore fishery is also actively carried on. The town was burnt by Arnold in 1781, and the garrison of Fort Griswold, on the opposite bank of the river, were massacred after having surrendered; a granite obelisk has been erected to the memory of those who fell on this occasion. Population, 4356. Norwich, 13 miles above New London, is a flourishing manufacturing city, situated in a beautiful and fertile tract. The water-power is here ample, and is already extensively employed for useful purposes; there are in the township 17 manufacturing establishments, eight churches, three banks, &c. Population of the city, 3135, of the township, 5161. Stonington, in the southeast corner of the State, has twelve vessels in the seal fishery, and carries on the shore fishery successfully. The town was attacked by the British, in 1814, but the assailants were beat off by the inhabitants. Population, 3397.

SUBSECT. 2.—*Middle States.*

Under this head we shall comprise the States of New York, New Jersey, Pennsylvania, Delaware, and Maryland, although the term is sometimes restricted to the four first-mentioned. Physically speaking, there is no very precise line of division between these and the Western or Southern States; and politically considered, Mason and Dixon's line, which divides the slave-holding from the non-slaveholding States, would be the more appropriate frontier of the Middle States; but a division founded on this basis would exclude Delaware. Following, therefore, established usage, we bound this region by Lower Canada, the St. Lawrence, and Lakes Erie and Ontario, on the north; Lake Champlain, the New England States, and the Atlantic Ocean, on the east; the Potomac and Virginia on the south; and Virginia and Ohio on the west. It extends from 38° to 45° N. lat., and from 72° to 80° 36′ W. lon., having an area of about 115,000 square miles. It exhibits the most extensive mountainous tracts in the Union. The Appalachian chain spreads to its widest limits in Pennsylvania. None of the eminences of these mountains equals in height the loftiest summits of the New Hampshire ranges, but their general elevation is not much below that of the other mountains in New England. They are almost universally covered with forests, and there are many wild solitudes among them, which are seldom or never visited by man. In Pennsylvania, there are vast tracts among the mountains, where the most timid of all wild animals find a secure and undisturbed abode.

On the north, this region slopes to the basin of the great lakes, and on the west to that of the Ohio. But its great rivers are on the eastern declivity of the table-land, which occupies its interior, and they descend, in a general course, to the south. The Hudson, flowing in a deep bed between high banks, reaches the sea without losing its river character; but the Susquehanna and Delaware, having their outlets in flat alluvial tracts, lose themselves in wide expanses, which are sometimes considered as continuations of the rivers; but it would, perhaps, be more correct to view them as inland arms of the ocean, formed by the projection of tongues of land running into the sea. Long Island Sound, Delaware Bay, and Chesapeake Bay, are, in fact, parts of the Ocean, shut in by one island and three peninsulas; viz. Long Island; the New Jersey peninsula, south of Rariton Bay; the Chesapeake peninsula, between the Delaware and Chesapeake Bay; and the Potomac peninsula, between the Chesapeake and Potomac. Long Island Sound differs from the two other Bays only in lying at right angles to the Hudson, while those Bays extend in the same direction with the courses of their principal tributaries.

The whole coast of this section is a low, sandy flat, bordered by long, low, narrow, sandy islands and spits, and submarine sand-banks. The mineral productions are various and valuable. Bituminous and anthracite coal, several kinds of iron ore, salt, lime, excellent building materials, and clays useful in the arts, are among the treasures in which it abounds. The staple agricultural produce is wheat, but tobacco is also extensively cultivated. The mining and manufacturing industry has acquired importance from the activity and success with which it has lately been pushed, and the public works of this section are particularly remarkable for their number and magnitude.

The population of the Middle States is composed of various materials, and its character is much diversified by difference of extraction, and various modes of education and habits of life; but it is favourably distinguished for industry and frugality. The great body is of English or British descent, but in New York and Maryland there are many Germans; and in Pennsylvania they are so numerous as to constitute, in some respects, a separate community, retaining their own language, and being often ignorant of English. In New York and New Jersey, there are many descendants of the original Dutch settlers of New Amsterdam, and in some sections the Dutch language is partially spoken. After the close of the revolutionary war, the emigration from the New England states into New York, continued to set so strongly for many years, that a majority of the present population of that State are natives of New England, or their descendants. There is also a large body of New England emigrants in Pennsylvania. The whole population of the five Middle States is a little upwards of four millions; in which number are 180,500 slaves, and nearly 170,000 free blacks.

1. *State of New York.*

This great State, the most flourishing, wealthy, and populous in the Union, combining with almost unequalled natural advantages of soil, internal navigation, and easy access by sea, public works executed on a scale of imperial grandeur, exhibits one of those amazing examples of growth and prosperity, that are seen nowhere on the globe beyond our own borders. Its northern boundary is the parallel of 45°, between Lake Champlain and the St. Lawrence, where it is conterminous with Lower Canada; Lake Champlain and an imaginary line running nearly south, from a point a little east of the head of that lake, to Long Island Sound, form its eastern boundary, except where Long Island projects far out into the ocean; the southern, southwestern, and western border is chiefly an imaginary line, dividing it from New Jersey and Pennsylvania; but the northwestern frontier is formed by the great lakes Erie and Ontario, and their outlets, the Niagara and the St. Lawrence. It extends from 72° to 79° 55′ W. lon., and from 40° 28′ to 45 N. lat.; its greatest length exclusive of its islands is 320 miles, or, including them, about 400 miles; but between Lake Ontario and Lake Champlain, whence it gradually contracts towards the north, it is only 150 miles; in the eastern part its extreme breadth is 320 miles, but in the western, between Lake Ontario and Pennsylvania, not more than 85; the area is 45,658 square miles, exclusive of the portion of the great lakes included within its limits.

This State forms a portion of the elevated table-land of the United States, broken in some places by mountainous ridges of inconsiderable elevation, and containing some remarkable depressions, which form the basins of lakes, or the channels of the rivers. The loftiest part of this table-land is in the western corner of the State, where Lake Chatauque is nearly 1300 feet above the level of the sea; and, although it is but nine miles from Lake Erie, it discharges its waters, by the Alleghany and Ohio, into the Mississippi, and thus affords boat navigation to the Gulf of Mexico, a distance of 2600 miles. Franklinville and Angelica, to the east, although situated in valleys, are respectively 1580 and 1430 feet above the sea. Along the southern border, several of the western ranges of the Appalachian Mountains form low ridges of hills, and to the north, the surface declines, in part, by gradual slopes, in part, by sudden pitches, towards Lake Ontario; the Niagara and Genesee fall, at Manchester and Rochester, 170 feet, and the surface of the lake is still 230 feet above that of the sea. The Erie canal, as is well known, is nearly throughout its whole length at an elevation of from 400 to 500 feet, and Lake George is about on the same level as Lake Ontario. The Blue Ridge, or Great Eastern chain, enters this State from New Jersey, and crossing the Hudson at West Point, under the name of the Highlands, is continued on the eastern side of the river, under the name of the Taconic mountains, and separates the waters of the Hudson from those of the Housatonic and Connecticut. Further west, the prolongation of the Kitatinny, or Blue Mountain, enters the State from Pennsylvania, under the name of the Catskill Mountains, and, crossing the Mohawk, forms several parallel ridges of no great elevation, dividing the waters of Lake Champlain from those that flow into Lake Ontario and the St. Lawrence. The highest elevation of these northeastern ridges does not exceed 2600 feet, which is the height of White Face, in Hamilton county. The highest summit of the Catskill Mountains is Round Top, 3804 feet. The Pine Orchard, near Catskill, is much visited on account of the beauty of the prospect; it embraces a view of about 70 miles, including the Hudson and its beautiful valleys, beneath the spectator's feet, and the distant peaks of the Green Mountains in the back-ground. Kauterskill Falls here form a picturesque cascade embosomed in a wild, deep glen, shut in by high banks covered with a dense forest of lofty trees; the kill, or stream, plunges by two leaps down a descent of 250 feet.

The Hudson, the principal stream, is the most useful river in the United States, in proportion to its length; for although it has a course of not more than 325 miles, it is navigable by sloops to Troy, one-half of that distance, and by ships to Hudson, 130 miles. It is the only river of the Atlantic slope, whose navigation is not closed by its passage through the Appalachian Mountains; its head waters have nowhere an elevation of more than 150 feet; and its bed lies deep below the adjacent country, and admits the tide-waters to flow up to Troy, 166 miles. A shoal, called the Overslaugh, a few miles below Albany, offers some obstruction to the navigation. The picturesque beauty of its banks, forming gentle grassy slopes, or covered with forest to the water's edge, or crowned by neat and thriving towns; now overshadowing the water with tall cliffs, and now rising in mural precipices; and the legendary and historical interest associated with numerous spots, combine to render the Hudson the classic stream of the United States. Above Troy it receives its principal tributary, the Mohawk, a turbulent river, whose sources lie near the great lakes, and which has a course of about 135 miles, with a descent of 367 feet. The Genesee rises on the table-land on the northern border of Pennsylvania, and runs north, across the western part of New York, into Lake Ontario. At Rochester, 5 miles from its mouth, are falls of 96 feet, and below, another fall of 75 feet; above these, the river is navigable by boats about 70 miles, to Nunda, where there are two falls of 60 and 90 feet. The Onondaga or Oswego, formed by the junction of the Seneca and Oneida with the outlets of numerous small lakes, is about 25 miles long; 12 miles from its mouth in Lake Ontario, it has a fall of 100 feet. Black River also reaches the same lake, after a course much broken by falls; it is a valuable mill-stream.

An account of lakes Erie and Ontario, whose waters bathe the northwestern borders of the State, will be found in the description of British America. Lake Champlain has been described under the head of Vermont. Lake George is about 33 miles long, by 2 wide, and empties its waters into Lake Champlain, by an outlet 3 miles in length, with a descent of about 200 feet. Its waters are clear and pure, and its bosom is adorned with upwards of 300 islands. Surrounded with lofty mountains, some rising boldly from its shores, and others occupying a distant back-ground; overhung in many places with a thick, dark forest, which contrasts strongly with its pure, bright waters; and infinitely diversified with retreating bays, projecting headlands, and rocky, or fertile and well wooded islands, Lake George offers great attractions to the lovers of nature. The greatest depth of the lake, which abounds in trout, bass, and perch, is 60 fathoms. A little west of the centre of the State, is a lake region comprising Lake Canandaigua, Crooked Lake, Seneca, Cayuga, Owasco, Skeneateles, Onondaga, and Oneida, whose waters are carried into Lake Ontario by the river Oswego; Cayuga Lake is 38 miles, and Seneca 35 miles in length, and they are from two to four in breadth.

Iron ore is found in inexhaustible quantities and of a good quality in the northeastern part of the State; it occurs also in some of the central, eastern, and southwestern counties. In Canton near the St. Lawrence there is a plentiful supply of sulphuret of iron; the ore consists chiefly of iron pyrites and alumina, and is used for the manufacture of copperas and alum; 200 tons of the former were made in 1834; but in 1835, after the manufacture of the latter was commenced, which yielded 15 tons, the quantity of copperas was reduced to 50 tons. Lead has recently been obtained in St. Lawrence county. Gypsum is found in the central counties, and is extensively used in agriculture. Limestone occurs in the western and northern counties, furnishing a valuable water cement, which has proved highly important in the construction of the canals. Good marble is obtained from the quarries of Sing Sing. Salt is procured in abundance from the Onondaga salt-springs in the township of Salina; the brine is conducted to Salina, Syracuse, and other neighbouring villages, where the salt is obtained by boiling, by solar evaporation, and by artificial evaporation, 45 gallons of water yielding a bushel of salt; there are here 1,516,299 superficial feet of vats, and 3423 kettles and pans; the quantity of salt made in 1826 was 827,508 bushels; in 1830, 1,435,446; in 1835, 2,209,867. It seems to be doubtful whether coal will be found in New York. The well-known springs of Ballston and Saratoga are partly saline, partly chalybeate, and the water is exported in considerable quantities not only to other States, but to foreign countries. In the western part of Chatauque county there are burning springs, yielding carburetted hydrogen, which is applied to economical uses in the neighbouring villages.

Most of the soil in the State is of a useful quality, and much of it is highly fertile; but there are some sandy tracts on Long Island, and marshy districts in the northeast, which are not suitable for cultivation. The following statement shows the amount and value of improved lands and live-stock in the years 1825 and 1835.

	1825.		1835.	
	Number.	Value.	Number.	Value.
Acres of improved Land	7,160,967	$179,024,175	9,655,426	$241,385,650
Neat Cattle	1,513,421	15,134,210	1,885,771	18,857,710
Horses	349,628	17,481,400	524,895	26,244,750
Sheep	3,496,539	5,244,808	4,261,765	6,392,647
Hogs	1,467,573	4,403,719	1,554,358	4,663,074
Totals	....	221,288,312	....	297,543,831

Wheat is the great agricultural staple of the State, and flour and provisions are largely exported.

The manufactures of New York are also extensive and flourishing; the aggregate value of manufactured articles, in the year 1835, was stated to be 60,669.067 dollars; that of the raw materials used, 43,400,922 dollars.

Statement of the Manufactures according to the Census in 1835.

Manufactories.	Number.	Value of Manufactures.
Grist Mills	2051	$20,140,435
Saw Mills	6948	6,881,055
Oil Mills	71	275,574

Manufactories.	Number.	Value of Manufactures.
Fulling Mills	965	2,894,096
Carding Machines	1061	2,651,638
Cotton Factories	111	3,030,709
Woollen Factories	234	2,433,192
Iron Works	293	4,349,949
Trip Hammers	141	363,581
Distilleries	337	3,098,042
Asheries	693	726,418
Glass Factories	13	448,559
Rope Walks	63	980,083
Chain Cable Works	2	28,625
Oil Cloth Works	24	95,646
Dyeing and Print Works	15	2,465,000
Clover Mills	69	110,025
Paper Mills	70	685,784
Tanneries	412	5,598,626
Breweries	94	1,381,446.

In addition to which, there were made in families 2,183,951 yards of fulled cloth, 2,790,069 yards of flannels and other woollens, and 3,799,953 yards of cotton, linen, &c., of an aggregate value of 2,029,984 dollars. The cotton and woollen mills produced 24,175,357 yards of cotton cloth, 6,626,058 of woollen, and 686,203 of cotton and woollen.

The commerce of New York is also on a great scale, as, beside supplying her own wants and exporting her surplus productions, she imports a large share of the foreign articles consumed in the neighbouring Atlantic States, as well as in many of the Western States, to which her natural and artificial channels of communication give her access; and her great commercial emporium is the outlet for the produce of the same regions. Thus in 1835, the value of the importations was 73,188,594 dollars, or nearly three-fifths of the whole imports of the country; while that of the exports was 25,512,014 dollars, or more than one-fourth of the whole exports of the United States. The shipping belonging to the State at the end of 1833 amounted to 344,769 tons, making New York second only to Massachusetts in point of tonnage. The amount of toll collected on the state canals increased from 1,056,799 dollars in 1830, to 1,548,108 in 1835, notwithstanding several very great reductions of the rates of toll. There were cleared on these canals in 1835,—

4,321,727	Cubic feet of Timber	1,110,379	Bushels of coarse Grain
201,109,817	Feet of Lumber	7,613,054	Pounds of Butter
24,926,591	Staves	11,644,978	Pounds of Cheese
1,267,275	Barrels of Flour	48,240	Barrels of Beef and Pork
2,402,373	Bushels of Wheat	2,463,447	Pounds of Wool.

The total value of the articles which reached tide-water, is estimated to have exceeded 20,000,000 dollars, as follows:—

Produce of Land (Wheat, Flour, &c.)	$8,170,035
Produce of Animals (Butter, Cheese, Provisions, Wool, &c.)	3,237,390
Other Agricultural Products	207,513
Products of the Forest (Lumber, Timber, Staves, &c.)	4,770,017
Ashes	1,001,430
Tobacco	357,514
Furs and Peltry	470,157
Other Articles	2,411,390.
Total	20,525,446

Forty-five ships of 13,000 tons sailed to the whale fishery in the same year, chiefly from Sag Harbour, Hudson, Newburgh, and Poughkeepsie.

This State is distinguished for its magnificent public works, constructed for the purpose of connecting the great central basin of the lakes and the St. Lawrence with the Atlantic; 663 miles of canal navigation have been obtained, at the cost of 13,497,568 dollars; and goods are now carried by water from New York to Chicago, 1400 miles; to Florence, Alabama, 1935 miles; to Nashville, Tennessee, 1850 miles, &c. The great trunk is the Erie canal extending from Buffalo on Lake Erie to the Hudson, 364 miles; it has 84 locks of stone, each 90 feet long and 15 wide, with a rise and fall of 698 feet, and 18 aqueducts, one of which crosses the Genesee, and three the Mohawk; width at top 40 feet, at bottom 28 feet, depth 4 feet; provision has recently been made for enlarging this great work, the longest of the kind in the world, by increasing the width to 60, and the depth to 6 feet, lengthening the locks to 105 feet, and constructing a double set of lift-locks, at the estimated cost of above 10,360,000 dollars. The Champlain canal extends from Lake Champlain, at Whitehall, to the junction of the Erie canal with the Hudson, 64 miles, with a navigable feeder of 12 miles; lockage, 188 feet, by 21 locks. Other branches of this work, pervading different parts of the State, are the Oswego canal, 38 miles, connecting the Erie canal, at Salina, with Lake Ontario; Cayuga and Seneca canal, 23 miles, extending from Geneva to Montezuma on the Erie canal, and thus continuing the navigation through those two lakes; Crooked Lake, 8 miles, connecting that lake with Seneca Lake; Chemung canal, from the head of the latter to the river Chemung, or Tioga, at Elmira, 23 miles, with a navigable feeder from Painted Post to Elmira, of 16 miles; Chenango canal, 97 miles in length, from Binghamton, on the Chenango, to Utica. Appropriations were made by the Legislature in the session of 1836, for the construction of the Black River canal, 75 miles in length, from Rome on the Erie canal, to Carthage on Black River; and the Genesee Valley canal, from Rochester to Olean, on the Alleghany river, 107 miles.

Beside these works constructed by the State, the principal canal made by a private company, is the Delaware and Hudson, extending from the mouth of Roundout Creek, on the latter river, to Port Jervis on the Delaware, up that river to the mouth of the Lackawaxen, and along the latter to Honesdale in Pennsylvania: total length, 109 miles, of which 26 are in Pennsylvania; 106 locks; rise and fall, 950 feet. From Honesdale a rail-road runs to the coal mines at Carbondale, a distance of 16 miles, passing over Moosic Mountain, which is 1580 feet above tide water, and 850 above the coal mines. Two great projects, which will undoubtedly soon be executed, deserve to be mentioned here: these are a ship canal round the falls of Niagara, and another from Oswego by the Oswego river, Oneida lake, and the Mohawk to the Hudson, thus enabling vessels from the upper lakes to reach New York without breaking bulk.

The following are the principal rail-roads already completed:—the Mohawk and Hudson, from Albany to Schenectady, 15 miles, continued northwardly by the Schenectady and Saratoga rail-road, 22 miles, and westward by the Schenectady and Utica rail-road, 77 miles; the Auburn and Syracuse rail-road, 26 miles; the Tonawanda rail-road, from Rochester to Attica, 34 miles; the Ithaca and Owego, 29 miles from the Susquehanna to Cayuga lake; the Rensellaer and Saratoga rail-road, from Troy to Ballston, 25 miles; the Brooklyn and Jamaica rail-road, 12 miles. It is also intended to connect the detached links between Albany and Buffalo, so as to form an unbroken line of road between those two places; and rail-roads are now in progress from Hudson and Greenbush to West Stockbridge, in Massachusetts, which will serve to connect Boston, by the Massachusetts western rail-road, with Lake Erie. The Long Island rail-road, from Jamaica to Greenport; the New York and Erie rail-road, from Tappan, on the Hudson, to Lake Erie, 480 miles; and the New York and Albany rail-road, between those two cities, a distance of 160 miles, are in progress. The latter passes up the eastern side of the river, partly through Connecticut and Massachusetts; and a tunnel under the Hudson at Albany, has been projected.

This part of the country was first explored by Hudson, an English navigator in the Dutch service, in 1609; and factories were established on the Hudson by the Dutch West India company, at Fort Orange, now Albany, in 1613, and a few years after on Manhattan island, at New Amsterdam, now New York. New settlements were soon formed, and the colony received the name of New Netherlands. The English, however, claimed the territory by right of prior discovery, and in 1664, Charles II. made an extensive grant to his brother, the Duke of York and Albany, which included within its bounds the colony of New Netherlands. Possession was taken by the agents of the duke, after whose accession to the throne of England, it became a part of the dominions of the crown, and the administration was conducted by a royal governor and a provincial assembly, till the revolution of 1775. While Canada belonged to the French, New York was the scene of many bloody struggles with them and their savage allies; and during the revolutionary and three years' war it became the theatre of several important military operations.

The legislature consists of two houses, the Senate, chosen for the term of four years, and the Assembly, elected annually; the former are chosen by senatorial districts, and the latter by counties. A Governor and Lieutenant Governor are chosen by popular election for the term of two years. The chancellor and superior judges are appointed by the Governor and Senate, and hold their office during good behaviour, or until the age of 60 years; the inferior judges are appointed by the same authorities, for the term of five years. Every white male citizen of the age of 21 years, who has resided in the State for one year next preceding the election, is entitled to vote; but coloured persons must be possessed of a clear freehold of the value of 250 dollars, in order to be qualified electors.

Very ample provision is made for common education, and there is no country in the world where the body of the people is better taught, than in New York. The State has a school fund, the proceeds of which are distributed among the towns, on condition that each town raise by tax a sum equal to that which it receives from the State; the whole of these sums is expended solely in the payment of teachers' wages, in addition to which the erection of the school-house, and other incidental expenses, are at the charge of the school districts.

The school fund, at the close of 1835, amounted to 1,875,192 dollars. The number of school districts at that time was 10,132; of which returns were received from 9676, containing 541,401 pupils; the sum of 312,181 dollars was distributed among these districts by the State, under the name of public money, of which 100,000 dollars was received from the common school fund, 193,760 was raised by a property tax, and the remainder was derived from local funds; and the sum of 419,878 dollars was raised by the school districts. Provision has also been made at the public expense, for the education of teachers, by the establishment of a department in an academy of each of the eight senatorial districts, with the suitable books and apparatus for that purpose. There are also 66 academies and high schools, among which are distributed 12,000 dollars from the literature fund, containing 5296 students, and a great number of other high schools and seminaries of instruction. The higher seminaries are the University of the City of New York, and Columbia College, in New York city; Union College, at Schenectady; Hamilton College, at Clinton; and Geneva College, with a medical department, at Geneva. The Episcopalians have a Theological Seminary in New York; the Presbyterians, at Auburn; the Baptists, at Hamilton; and the Lutherans, at Hartwick. There are likewise medical schools in New York and at Fairfield.

The principal religious sects are the Presbyterians, including Congregationalists, the Methodists, and the Baptists; the Episcopalians and Dutch Reformed are also numerous, with some Lutherans, Roman Catholics, Friends, &c.

The increase of the population of this State has been very rapid; in the 20 years from 1790 to 1810, it nearly trebled itself; from 1810 to 1830 it doubled itself, and in the five years from 1830 to 1835, the increase was 13⅓ per cent.; by the census of 1835 the population was 2,174,517. It consists, in part, of the descendants of the original Dutch settlers, who have at present, however, lost in a great measure their national characteristics, and the descendants of the German palatines, who removed thither in the beginning of the last century, with some emigrants from Great Britain and other European countries. But the mass of the people are of New England origin or descent, and they are favourably distinguished for enterprise, intelligence, and virtue.

Population at Different Periods.

	Total.	Slaves.	Free Blacks.
1790	340,120	21,324	4,654
1800	586,786	20,343	10,374
1810	959,049	15,017	25,333
1820	1,372,812	10,088	29,279
1830	1,913,006	75	44,870
1835	2,174,517	———	———

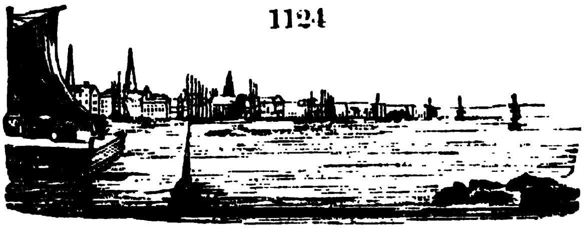
The State is divided for civil purposes into 57 counties, containing 9 cities, and 797 townships, with 122 incorporated villages, many of which have different names from the townships in which they are situated:

Counties.	County Towns.	Population.—1835.	Value of Real and Personal Estate.—1835.
Albany	Albany	59,762	$13,525,325
Alleghany	Angelica	35,214	2,731,951
Broome	Binghamton	20,190	2,042,009
Cattaraugus	Ellicottville	24,986	1,594,038
Cayuga	Auburn	49,202	4,443,174
Chautauque	Mayville	44,869	3,707,282
Chenango	Norwich	40,762	no returns
Chemung	Elmira	erected in 1836	no returns
Clinton	Plattsburgh	20,742	1,428,100
Columbia	Hudson	40,746	10,275,970
Cortland	Cortlandville	24,168	2,312,600
Delaware	Delhi	34,192	3,200,050
Dutchess	Poughkeepsie	50,704	17,792,667
Erie	Buffalo	57,594	8,810,627
Essex	Elizabethtown	20,699	no returns
Franklin	Malone	12,501	924,309
Genesee	Batavia	58,588	10,036,629
Greene	Catskill	30,173	3,326,948
Hamilton	———	1,654	included in Montgomery
Herkimer	Herkimer	36,201	5,161,627
Jefferson	Watertown	53,088	4,941,347
Kings	Brooklyn	32,057	31,940,932
Lewis	Martinsburgh	16,093	1,591,322
Livingston	Genesco	31,092	5,593,459

Counties.	County Towns.	Population.—1835.	Value of Real and Personal Estate.—1835.
Madison	Morrisville	41,741	$4,994,242
Monroe	Rochester	58,085	10,390,745
Montgomery	Johnstown	46,705	4,259,958
New York	New York	270,089	218,723,703
Niagara	Lockport	26,490	5,253,209
Oneida	Utica Rome Whitesboro	77,518	11,122,969
Onondaga	Syracuse	60,908	10,610,690
Ontario	Canandaigua	40,870	13,203,281
Orange	Goshen Newburgh	45,096	10,228,569
Orleans	Albion	22,893	4,684,520
Oswego	Oswego Pulaski	38,245	4,755,216
Otsego	Cooperstown	50,428	5,845,717
Putnam	Carmel	11,551	2,335,736
Queens	North Hempstead	25,130	8,990,500
Rensselaer	Troy	55,515	10,421,494
Richmond	Richmond	7,691	no returns
Rockland	Clarkstown	9,696	1,858,501
Saratoga	Ballston Spa	38,012	6,376,130
Schenectady	Schenectady	16,230	2,393,845
Schoharie	Schoharie	28,508	no returns
Seneca	Ovid Waterloo	22,627	no returns
St. Lawrence	Canton	42,047	no returns
Steuben	Bath	41,435	3,366,433
Suffolk	Riverhead	28,274	5,068,847
Sullivan	Monticello	13,755	1,255,030
Tioga	Owego	33,999	3,244,766
Tompkins	Ithaca	38,008	3,614,799
Ulster	Kingston	39,960	5,068,370
Warren	Caldwell	12,034	941,764
Washington	Sandy Hill Salem	39,326	5,863,354
Wayne	Lyons	37,788	4,003,515
Westchester	White Plains Bedford	38,790	10,093,672
Yates	Penn Yan	19,796	no returns
	Totals	2,174,517	$514,329,541
Returns in 1834 of 7 counties not received in 1835			16,323,583
	Grand Total		530,653,124

The city of New York (*fig.*1121.) is the largest, most wealthy, most flourishing of all American cities, the greatest commercial emporium of America, and, after London, the greatest in the world. Situated at the mouth of the Hudson, on the southern end of Manhattan island, it looks towards the channel of the East River, by which it is approached from Long Island Sound on the east, and that of New York Bay, which joins the Atlantic ocean on the south; in its waters, easy of access, sheltered from storms, and deep enough to admit the largest ships, the united navies of the world might lie in safety. No city in the world possesses equal advantages for foreign commerce and inland trade; two long lines of canals stretching back in every direction have increased its natural advantages, and rendered it the great mart of an almost indefinite extent of country, while its facilities of communication with all parts of the world have made it the thoroughfare of the same vast region. The progress of its population has never been paralleled; in 1790 it was 33,131; in 1810, 96,373; in 1830, 203,007, and in 1835, 270,089, or, including Brooklyn, upwards of 297,500. The number of buildings erected in 1835 was 1257. The city is built on nearly level ground, sloping gradually on each side towards the Hudson and East rivers, and it has a fine appearance

1124



New York.

from the sea. It is well built and regularly laid out, with the exception of the older part, in which the streets are crowded, narrow, and crooked; but this now forms but a small portion of the city. Broadway, the principal street, is a long and spacious avenue, 80 feet wide, extending for upwards of two miles in a straight line through the centre, and bordered by rows of handsome houses and rich and showy shops; here is a continued stream of carriages, wagons, drays, omnibuses, and all sorts of vehicles designed for business or pleasure, and on the footways crowds of pedestrians saunter along or hurry by. The southern point of the island on both sides of Broadway is the seat of business, and the banks of both rivers are lined with forests of masts, bearing the flags of all countries. The Battery, a pleasant public walk, planted with fine shade trees, facing the bay, and fanned by the sea-breezes, commands a fine view of the bay with its islands, and of the Hudson and its picturesque banks; the Park, a triangular green on Broadway, containing eleven acres prettily ornamented with trees, and adorned by some of the public buildings; Washington square, and several other parks contribute to the beauty and health of the city. Among the public buildings are the City Hall (*fig.* 1125.), a handsome edifice of white marble, with a front of 216 feet on the Park; the Hall of the University, a splendid building 180 by 100 feet on Washington square, in the English collegiate style, also of marble; the Hall of Columbia College; the Hospital; the City Lyceum; 150 Churches; Astor House, a hotel of Quincy granite, 200 feet by 150, and 77 feet high, containing 390 rooms; the Almshouse at Bellevue, on East river; the Penitentiary on Blackwell's Island in the same river, several miles from the city; the Custom House, an elegant building, 177 feet long by 89 feet wide, on the model of the Parthenon; the New Exchange about to be erected in place of the one destroyed by fire in 1835, &c.

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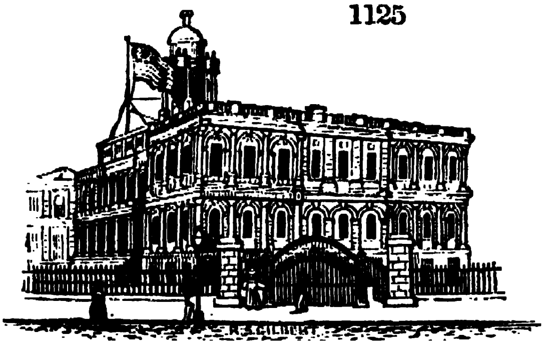


City Hall, New York.

The benevolent societies are numerous and well supported; they comprise an Hospital, in which 1837 patients were received in 1835, and with which is connected a Lunatic Asylum at Bloomingdale, in which the number of admissions was 138; an Hospital at Bellevue, for the sick and insane poor, connected with the city Almshouse; three Dispensaries for the relief of sick indigent persons, which in 1835 relieved upwards of 30,000 individuals; the Institution for the Blind; the Institution for the Deaf and Dumb, and a great number of Orphan Asylums, Relief Associations, Education, Bible, and Tract Societies, &c. Neither is New York behind her sister cities in her literary and scientific establishments; beside the educational institutions already mentioned, the Historical Society, with a library of 10,000 volumes; the New York Society Library, with 25,000 volumes; the Lyceum of Natural History, with a good cabinet and library; and the American Lyceum, have published some valuable papers; while the Mercantile Library Association, with a library of 12,000 volumes, and the Apprentices' Library, with 10,000 volumes, show that the merchants and mechanics are not indifferent to the intellectual improvement of their apprentices and clerks. The book-trade is actively carried on in New York; several highly respectable periodicals are published here, and no city in the country contains so many popular authors. There are also here an Academy of Fine Arts and an Academy of Design. The American Institute for the promotion of domestic industry by the distribution of premiums and other rewards, holds annual fairs for the exhibition of the products of American industry, and has established a statistical library of 3000 volumes, and a Repository of Arts for the exhibition of useful machines, specimens, &c.

But it is as a great mart of foreign and inland commerce that New York is chiefly known. Shipping belonging to the port in the beginning of 1834, 323,734 tons; entered during the year, 443,697 tons; cleared, 329,085 tons; whole number of arrivals from foreign ports in 1835, 2049. There are 16 regular packets plying between this place and Liverpool, four sailing monthly from each port; 16 packets to Havre, also sailing four times a month; with lines three times a month to London, once a month to Vera Cruz, the same to Carthagena, &c. The whole number of passengers arrived here from foreign countries in the five years from 1831 to 1836, was 205,500. The inland and coasting trade is also immense. There are here 23 banking institutions with a capital of 18,861,200 dollars, and 43 insurance companies with a capital of 14,800,000 dollars.

The first settlement was made on Manhattan island by the Dutch in 1621, who called their town New Amsterdam, and it afterwards received the name of New York, when the country passed into the hands of the duke of York, afterwards James II. In 1765 New York was the seat of a continental congress, and in 1776 it was occupied by the British forces, who retained it until Nov. 25, 1783. In 1789 the first congress under the new constitution was held here. The great fire of Dec. 16, 1835, destroyed 430 houses, mostly warehouses, and property to the amount of about 18 millions, but most of the buildings were rebuilt within eight months after the event.

On Long Island, opposite to New York, is the city of Brooklyn, whose population increased from 15,394 in 1830, to 24,529 in 1835. It is pleasantly situated on a rising ground, which commands an agreeable view, and it partakes in the commercial activity and prosperity of its neighbour. Here is a Navy-Yard of the United States, on Wallabout Bay, containing 40 acres of land and water, with building-slips, barracks, store-houses, &c., and a dry dock is about to be constructed. The success of the British arms on Brooklyn Heights, Aug. 26, 1776, gave the enemy possession of the city of New York. There are in Brooklyn a handsome City Hall, 17 churches, 3 banks, 2 insurance companies, &c. Steam ferry-boats are constantly running on four ferries between the city and New York, and a rail-road extends to Jamaica, 12 miles of which, the continuation to Greenport, is already in progress. To the northeast, facing the eastern side of New York, is the growing village of Williamsburgh, which in 1830 had less than 1000 inhabitants, and in 1835 comprised a population of 3000. To the south is Rockaway, a favourite bathing-place.

The northern part of the island is hilly for about two-thirds of its length, but the southern and eastern is level and sandy, and the southern coast is lined by long, low, narrow sand-islands, enclosing narrow and shallow bays. Here are extensive salt-marshes, and salt is manufactured in various places. Sag Harbour, on a bay at the eastern end, has a good harbour, and is the seat of some fisheries. In 1835 it had seven ships in the whale-fishery. Fisher's Island off the northeastern extremity of Long Island, and Staten Island, which is separated from it by the Narrows, and from New Jersey by the Kills, also belong to New York; on the latter are the New York quarantine ground, and a Marine Hospital.

On ascending the Hudson, a number of interesting sites, and flourishing villages and cities, present themselves. A few miles above the city is the State prison at Sing Sing, conducted on the Auburn plan; and a little higher up on the western side of the river is Stony Point, a rocky promontory, upon which was a fort in the revolutionary war, surprised by General Wayne, in 1789. Beyond, the river forces its way through the Blue Ridge, whose eminences rise abruptly from its bed to the height of from 1200 to 1500 feet; here stands West Point, a celebrated military post during the war of independence, and now the seat of the United States Military Academy for the education of officers of the army. The course of instruction comprises civil and military engineering, artillery and infantry tactics, moral, political, natural, and mathematical science, and the French language; the number of cadets is limited to 250, and they are obliged to undergo a rigid examination annually. On a height above the academy, is Fort Putnam, now in ruins, but in the war of the revolution an important fortress; on the opposite side of the river is a cannon foundery. Newburgh, on the right bank, with 5000 inhabitants, and Poughkeepsie, on the left, with 6281, are neat, thriving villages, with considerable trade, and several ships engaged in the whale fishery. The former was the head-quarters of Washington at the time of the publication of the celebrated Newburgh Letters; the latter is situated in one of the richest agricultural districts in the State, and contains 3 cotton and 3 woollen mills, machine-shops, furnaces, &c. The village of Kingston has 2000 inhabitants. Catskill, with 2498 inhabitants, is the point at which the traveller lands for the purpose of visiting Catskill Mountains. The country in the rear is mountainous, well watered, thickly wooded, and contains many fertile valleys.

Near the head of ship navigation, 117 miles from the sea, stands the city of Hudson, on a commanding eminence, on the left bank of the river. Its trade and manufactures are extensive and increasing, and it has eleven ships of about 4000 tons engaged in the whale fishery. The city is well laid out, and prettily built, and the neighbourhood presents many charming prospects. The population in 1830 amounted to 5392, and in 1835 to 5531. To the northeast is the village of New Lebanon, a favourite watering place, containing warm springs, and situated in a delightful district; there is a society of Shakers, or Millenarians, who hold their property in common, and abjure marriage; and whose religious ceremony consists chiefly of a sort of measured movement or imperfect dance, accompanied with a monotonous chant;—the Shakers are distinguished for their sobriety, industry, and frugality.

Returning to the river, we come to Albany, the capital, and in point of size the second city of the State; it is pleasantly situated on an eminence, on the western bank of the river, 144 miles from New York. Its wealth and trade have been greatly increased by the opening of the Erie and Champlain canals, which terminate in a large basin in the city, and its situation renders it a great thoroughfare, not only for traders, but also for travellers on the northern route. It contains several handsome public buildings, among which are the old State Hall, on a fine square, 220 feet above the river; the new State Hall, 138 feet by 88 feet, and the City Hall, both of white marble; the Academy, of red freestone; 14 churches, &c. The Albany Institute, with a library and cabinet of minerals, coins, and casts, has published some valuable papers; the Athenæum has a library of above 8000 volumes, and there is also an Academy of Fine Arts here. Regular steam-packets leave twice a day for New York; numerous canal packets and rail road-cars are constantly departing for the northern and western routes, and several lines of stage coaches keep up a communication with the east; the number of persons who annually pass through the city has been estimated at upwards of 600,000. The down freight brought to Albany in 1835, comprised 712,918 barrels of flour, 1,886,600 bushels of wheat and other corn, 105,551,500 fir boards and scantlings, 34,068 million shingles, 2279 cubic feet of timber, 46,191 tons of staves, 22,984 barrels of ashes, 16,172 barrels of beef and pork, 7,859,500 pounds of butter, lard, and cheese, &c.; the amount of toll collected was 357,565 dollars. Albany was first occupied by the Dutch in 1612, under the name of Fort Orange, and it received its present name from the English; the population of the city in 1820 was 12,630, in 1830, 24,209, and in 1836, 28,109. The city of Troy, six miles above Albany, on the opposite side of the river, is the only town on the Hudson, which is built on an alluvial bottom; it stands at the foot of a range of high hills, which command extensive prospects, and furnish excellent mill-seats. The trade and manufactures of Troy are both considerable; the city is regularly laid out and prettily built, and many of the streets are adorned with fine shade-trees. The population in 1830 was 11,405, and in 1835, 16,959, having increased nearly 50 per cent. in five years. There is a United States arsenal in Watervliet, opposite Troy. At the mouth of the Mohawk, are Cohoes Falls, where the river is precipitated over a rocky ledge upwards of 60 feet in height.

The valley of the Upper Hudson, affording an easy route, by way of Lake Champlain, from Canada to the sea-coast, was the theatre of many events of historical interest, in the early Indian wars, in the French war of 1755, and in the revolutionary struggle. At Bemis' Heights, in Stillwater, were fought the celebrated actions of Sept. 19, and Oct. 8, 1777, which led (Oct. 17) to the surrender of Burgoyne, at Schuylersville, one of the proudest scenes in American history, and which gave a decided turn to the war of independence. In the rear of these memorable heights, are the most frequented of American watering-places, Ballston Spa and Saratoga. The former lies in a pretty valley, and contains five or six chalybeate springs, several of which are also pretty strongly impregnated with saline ingredients and carbonic acid; they are tonic in their effects. Seven miles distant are the Saratoga Springs; the principal, known as the Congress Spring, is saline, and thousands of bottles are annually sent off. Proceeding north to Lake Champlain we pass the celebrated old fortresses of Ticonderoga and Crown Point, whose ruins are still visible, and reach the little village of Plattsburgh, where the British flotilla on the lake was captured by Commodore Macdonough, in 1814.

The region between the lake and the St. Lawrence contains some of the least cultivated and populous tracts in the State; but is valuable for its mineral wealth, and also affords much excellent land. Ogdensburgh, on the St. Lawrence, opposite Prescott, has 2000 inhabitants, and is accessible to large steam vessels from Lake Ontario; at the eastern end of the lake, at the head of a deep bay, is Sacket's Harbour, an important naval station during the three years' war; and on the Black River, 7 miles from its mouth, is the flourishing village of Watertown, situated in a rich farming district, and containing numerous mill-seats; here are several large cotton and woollen mills, nine saw and grist mills, machine-shops, tanneries, &c. The village is prettily situated and neatly built, and has a population of 3500 inhabitants.

If we now direct our attention up the valley of the Mohawk, and along the line of the Grand Trunk and its branches, we find a number of cities and towns, which have sprung up, as if by enchantment, in the bosom of a wilderness. Schenectady, Utica, Syracuse, Oswego, Auburn, Ithaca, Seneca, Canandaigua, Rochester, Lockport, and Buffalo, are the principal. The city of Schenectady, situated in the midst of a fertile tract, affording numerous mill-seats, traversed by the canal, and connected by rail-roads with Albany, Saratoga, and Utica, has an extensive and increasing trade and some manufactures. On account of the circuitous route of the canal and the great number of the locks below, many of the boats stop here. Schenectady is the seat of Union College, one of the principal collegiate institutions in the State. The population increased from 4268 in 1830, to 6272 in 1835. The flourishing village of Little Falls takes its name from a series of falls, where the river forces its way through a deep, narrow chasm, the rugged walls of which rise to the height of several hundred feet. The village being the centre of a rich agricultural district, carries on a considerable trade, and as it has an almost inexhaustible supply of water, it has become the seat of numerous mills and manufacturing establishments. The population in 1835 was 1900. A little further up is German Flats, celebrated for its fine meadows.

The city of Utica is pleasantly situated, regularly laid out, and neatly built, many of the streets being spacious and adorned with trees. In 1794, the spot contained only 4 or 5 log houses, in the midst of a wilderness; in 1835, the city had a population of 10,183 souls, 13 churches, an academy, a State and county Lyceum, a city library, a Mechanics' Association, which holds annual fairs, with an extensive trade and numerous manufactories and mills. The charter of the city prohibits the licensing of shops for retailing ardent spirits.

Utica is in the valley of the Saquoit, which on a territory of ten miles square, has a population of about 30,000, and contains 11 cotton mills, and 20 saw and grist mills, with bleacheries, woollen manufactories, machine-shops, &c. Trenton Falls, in the vicinity, are much visited for their picturesque scenery; a little river, called the West Canada Creek, has here cut its way through a rocky chasm, four miles in length, at the bottom of which, 150 feet below the top of its banks, the river dashes down a series of rapids, cascades, and boiling eddies. The villages of Salina, Syracuse, Geddes, and Liverpool, are the seat of the Onondaga Salt Springs, which are the property of the State; the manufacturers pay a duty of six cents a bushel, and in the year 1835 made 2,209,867 bushels, much of which is sent out of the State. The works are capable of producing three million bushels a year. Population of Syracuse in 1835, 4105; of Salina, 2500.

From Syracuse a branch canal extends to Oswego, on Lake Ontario, one of the most flourishing villages in the State; the river of the same name furnishes an inexhaustible water-power, which is very extensively employed for useful purposes, and an excellent harbour, protected by piers, constructed by the general government. Since the opening of the Welland canal, a considerable portion of the trade of the upper lakes, as well as that of Lake Ontario, enters at Oswego, and large quantities of wheat are brought in to be ground here. The population of the village nearly doubled between 1830 and 1835, having increased from 2117 to 4000 inhabitants. There were received here in 1835, 624,723 bushels of wheat, and there were sent off by the canal 137,959 barrels of flour, 8,814,581 feet of boards and scantling, 106,574 feet of square timber, 2,266,900 staves, &c. Here are seen the remains of Forts Oswego and Ontario, which have been the theatre of some interesting events. Returning south we enter the village of Auburn, on the outlet of Owasco Lake, celebrated for its State Prison; the prisoners are here shut up in separate cells by night, but they work together during the day; all conversation and communication is, however, strictly forbidden, and the most rigid silence and order is preserved among them; there are 400 cells, disposed in five tiers one above another, each tier containing two parallel rows, facing in opposite directions from the common partition wall. Moral reform, economy, and security, are combined in this discipline. The number of prisoners at the end of 1835 was 659; the expenses for that year amounted to 42,456 dollars, and the earnings of the prisoners to 49,814 dollars. Auburn is a flourishing place with 5,000 inhabitants.

Further westward, at the northern extremity of Seneca Lake, are the flourishing villages of Seneca Falls and Geneva, containing in 1835 each 3000 inhabitants. There are steamboats on Cayuga, Seneca, and Crooked Lakes, and the great water-power afforded by the fall of Seneca River, renders these villages the seat of numerous mills and manufactories. Geneva College in Geneva is a respectable institution. Canandaigua, on the lake of the same name, is very prettily situated on a commanding eminence, in a picturesque district, and has 3000 inhabitants. The city of Rochester, situated on the Genesee, seven miles from its mouth, and traversed by the Great Canal, is one of the most flourishing towns in the State. The river has here a fall of upwards of 90 feet, and a few miles below it descends by a fall of 75 feet to the level of Lake Ontario; the whole descent from Rochester is 255 feet, and a rail-road 3 miles in length extends from the city to the head of navigation. The motive power thus produced is constant and immense, and there are now in the city 21 large flour-mills, with 96 runs of stones, whose annual produce is valued at 3,000,000 dollars; several cotton and woollen manufactories, among which is one of carpets yielding annually 45,000 yards; and a great number of other manufacturing establishments. The aqueduct over the river is a fine piece of work, consisting of ten arches of hewn stone. The population of the city increased from 1502 in 1820, to 9269 in 1830, and 14,404 in 1835. The Genesee river is navigable for some distance above Rochester, and flows through a rich agricultural region. Sixty miles from Rochester, the canal rises, at Lockport, to the level of Lake Erie, surmounting the ridge which forms the Falls of Niagara, and which is also passed by the deep-cuts and locks of Welland Canal; the change of level at Lockport affords numerous mill-seats to that flourishing village, which has a population of 3639. The city of Buffalo, at the western termination of the canal, has a harbour on Lake Erie, formed by two little rivers which here unite their waters, and protected by a long pier. The city is well built and prettily situated, overlooking the lake, and it contains a great number of large stone warehouses and manufactories. The population in 1820, was 2095; in 1830, 6321; and in 1835, 15,661. There arrived at Buffalo from the east, on the canal, in the year 1835, 29,699 tons of merchandise, and 5434 tons of furniture and mechanics' tools, beside 79,385 barrels of salt; and there were cleared, passing east, 168,012 bushels of wheat and 100,833 barrels of flour, 8160 barrels of beef and pork, 7304 tons of ashes, 1765 tons of tobacco, 997 tons of pig iron and 768 of castings, 136 tons of furs, 537 tons of butter, lard, and cheese, 207 tons of deer-skins and raw hides, 61,430 feet of timber and 2,087,024 of lumber, 74,062 million shingles, &c. The amount of tolls collected at this place increased, notwithstanding the reduction of the rates, from 58,232 dollars in 1832, to 106,213 in 1835. The lake-trade is very extensive; but we are not able to state the amount. We may observe here that in

1817 there were but 25 vessels and no steam-boat on Lake Erie, and that in 1835, there were 375 sloops, schooners, and brigs, and 34 steam-boats, most of which exceeded 200 tons burthen, beside several ships, on the lake. Buffalo contains beside its numerous churches, a handsome exchange, a large and splendid theatre, &c.

The southern portion of the State is less improved and populous than the central, but it contains much fertile soil in the numerous valleys, that lie scattered among its hills, and there are here several flourishing towns; its resources will be more fully shown, when the great Erie rail-road shall afford it more easy access to a market. The village of Ithaca, at the head of Cayuga Lake, increased its population from 3324, in 1830, to 5000 in 1835; by the Owego rail-road it is connected with the Susquehanna, and by the lake with the Erie canal and tide-water. Its situation is highly picturesque, and the falls in the little river called Fall Creek have an aspect of wild grandeur; one of the cascades is 120 feet in height, and its lofty banks rise to about 100 feet above the bed of the stream. There are numerous manufacturing establishments here. Binghamton, at the junction of the Chenango and Susquehanna, and at the termination of the Chenango canal, is a thriving village with 2000 inhabitants.

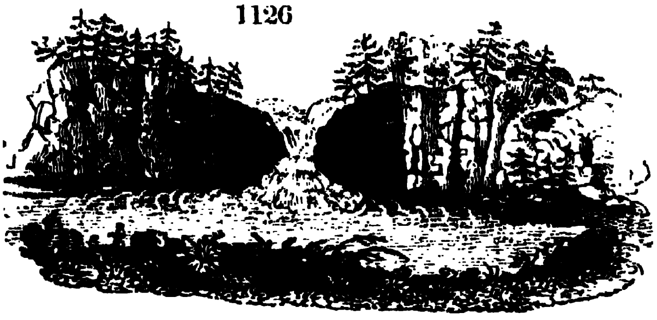
There are still in New York upwards of 4000 Indians, the remnants of the once powerful Six Nations. They occupy several reservations in the western part of the State, and there is also a small number, mostly half-breeds, at St. Regis on the St. Lawrence.

2. *State of New Jersey.*

New Jersey is almost entirely encircled by navigable waters; the Hudson River, the Atlantic ocean, and Delaware Bay and River surrounding it on all sides, except the north, where its frontier is an imaginary line of about 50 miles, running northwestward from the Hudson to the Delaware. Its greatest length is 166 miles, from Cape May, 38° 58′ N. lat., to Carpenters' Point, 41° 21′; its breadth varies from 40 to 75 miles; and it has a superficial area of 7276 square miles. The northern part of the State is hilly rather than mountainous, being traversed by the prolongation of several mountain ridges from Pennsylvania; these hills nowhere reach a great height, but they abound in bold and varied scenery, and are interspersed with fertile and pleasant valleys, comprising some of the best land in the State. Schooley's Mountain is a favourite summer resort, and contains saline springs. The eastern line of the State on the Hudson is formed by a bold ridge of trap rock, called the Palisadoes or Cloister Hill, which, presenting a precipitous wall to the river, in some places, as at Weehawken, 200 feet in height, gives an air of picturesque wildness to the scenery. The southern part of the State, from Raritan Bay and Trenton to Cape May, consists of a great sandy plain, nowhere rising more than 60 feet above the sea, except at the Nevisink Hills, near Sandy Hook, which, although only 310 feet high, form a prominent object amid the general level. From the low, projecting sand-bank, called Sandy Hook, opposite the Narrows, to the similarly formed point of Cape May, the whole eastern coast consists of a long line of sandy beaches, here and there interrupted by inlets, and enclosing narrow, shallow lagoons, behind which extends for several miles inland a low marshy tract; this coast is constantly changing, several old inlets having been closed, and new ones formed since the settlement of the country. Being exposed to the swell of the ocean, and affording few harbours, it is the scene of many shipwrecks. Barnegat, Great Egg Harbour, and Little Egg Harbour inlets, are the principal points of access to the inland waters. The southwestern coast, on the Delaware Bay and River, consists chiefly of a strip of salt-marsh, which gradually terminates in the sandy region.

New Jersey is well watered, comprising a great number of small rivers, useful for economical purposes. The Hackensack and Passaic run into Newark Bay, which affords a navigable communication through the kills with New York and Raritan Bays. The former is navigable for sloops to Hackensack, 15 miles; the latter, after receiving several considerable streams from the north, west, and south, has a fall (*fig.* 1126.) of 72 feet at Paterson, once much admired for its wild beauties; at present the water is chiefly carried off into numerous mill-courses. The Raritan, which flows nearly across the State, enters a fine bay of the same name, and affords sloop navigation to New Brunswick. Great and Little Egg Harbour rivers are navigable 25 miles for small sea-vessels. Maurice river enters Delaware Bay; the

1126



Passaic Falls.

Musconetcong is the principal tributary of the river Delaware from this State; the Wallkill flows north through a tract of swamp, called the Drowned Lands, about 20 miles long by 2 to 4 broad, which is annually inundated by the river.

New Jersey abounds in valuable iron ores; in the north the ores are hematitic and magnetic, of a good quality; in the south the bog-ore prevails; rich veins of zinc ore occur in the northern part of the State; copper also abounds and has been extensively worked; but, according to Professor Rogers, it is not found in a true vein, but exists only in irregular bunches or strings. Good free-stone for building, roofing and writing slate, marble of excellent quality, lime and marl, highly valuable as a manure, fine sand, much used in the manufacture of glass, and extensive beds of peat are also found. The greater part of the sandy tract is covered with extensive pine forests, which have afforded supplies of fuel for the numerous furnaces of the State, and the steam-boats of the neighbouring waters; it contains, however, many patches of good land, producing oak timber or affording abundance of fruits and vegetables for the New York and Philadelphia markets; the middle section is the most highly improved and wealthy part of the State, being divided into small farms and kitchen gardens, which are carefully cultivated, and which find a ready market in the numerous manufacturing towns of the district, and in the great cities of the adjacent States. The northern counties contain much good pasture land, with numerous fine farms. The apples and cider of the north are as noted for their superior quality, as the peaches of the south. The industry of the inhabitants is chiefly devoted to agriculture, commerce being mostly carried on through the ports of New York and Pennsylvania; the northeastern corner is, however, the seat of flourishing manufactures. The shad and oyster fisheries in the rivers and great estuaries that border on the State, afford a profitable employment to many of the inhabitants. The shipping belonging to New Jersey in 1834 was 36,867 tons; value of imports 4492 dollars, of exports 8131 dollars.

Manufacturing Establishments in New Jersey, in 1830.

857 runs of stone in grist-mills
655 saw-mills
72 fulling-mills
29 paper-mills
13 rolling and slitting-mills
17 oil-mills
28 furnaces
108 forge-fires
45 cotton-factories
25 woollen-factories
6 calico-works
13 glass-works
399 distilleries
135 carding-machines
2876 tan-vats.

The value of the iron manufactures was estimated, in 1830, at about 1,000,000 dollars annually; of glass 500,000; of cottons 2,000,000; of woollens 250,000; but all these branches have very much increased since that time. Hats, boots and shoes, carriages, harness, &c., are also largely produced.

Several important canal and rail-road routes connect the eastern and western waters, or unite different sections of the State. The Morris canal extends from Jersey city, opposite New York, through Newark and Paterson, by a somewhat circuitous route, to the Delaware opposite Easton, 102 miles, thus connecting the Hudson with the anthracite coal region of Pennsylvania; fuel, lumber, timber, lime, flour, &c., are also brought down the canal; inclined planes have been in part used instead of locks, and the boats are raised and let down in a frame or cradle, moved by water-power; the total rise and fall is 1674 feet, of which 1439 feet are overcome by 22 inclined planes, and 235 by 24 locks; there are 12 aqueducts on the canal. The Delaware and Raritan canal, uniting the navigable waters of the rivers from which it takes its name, extends from Bordentown through Trenton to New Brunswick, 43 miles; it is 75 feet wide and 7 deep, admitting vessels of 100 tons; there are 14 locks which rise and fall 116 feet; a navigable feeder, 23 miles in length, extends from Bull's Island in the Delaware to Trenton. Salem canal runs from the Upper Salem Creek to the Delaware, 4 miles, and Washington canal, from the place of the name to the Raritan, one mile. The Camden and Amboy rail-road is an important work on the great line of travel between the north and south, 61 miles in length. The Paterson and Hudson rail-road, from Paterson to Jersey city, opposite New York, is 14 miles long; the New Jersey rail-road extends from New Brunswick, through Newark, to the last mentioned road, a few miles from the Hudson; length 28 miles. The Camden and Woodbury rail-road, 8 miles, is in progress.

Settlements were made by the Swedes, at an early period, in the southern part of the State, near Salem, where some of their descendants are still found, and some names of places given by them are retained. Dutch emigrants occupied the northeastern parts, which were included within the limits of New Netherlands. The whole country was then comprised in the grant made to the duke of York in 1664, and in 1676 was by him set off to two different proprietors, who held both the property of the soil and the powers of government, under the names of East Jersey and West Jersey. In 1702 the proprietors of the Jerseys surrendered the powers of government to the British crown, and they thenceforward formed one government. During the war of the revolution this State was the scene of some arduous and interesting conflicts. Washington conducted a skilful retreat through New Jersey in 1776, before superior British forces, and the brilliant affairs of Trenton, Princeton, and Monmouth, in the following year, took place within her borders.

The legislative bodies are a Legislative Council and a General Assembly, chosen annually by the people; the Governor is chosen annually by the two houses, and the two houses, with the Governor, are styled the Legislature. The superior judges are appointed for the term of seven years, and the inferior for five years, by the Legislature. The constitution provides that every person of full age worth 50 pounds proclamation-money, shall have the right of suffrage; but the Legislature has passed laws prohibiting females and negroes from voting, and declaring that every white male of the age of 21 years, who shall have paid a tax, shall be considered as worth 50 pounds, and shall be entitled to vote. Every child born in the State after July 4th, 1804, is free; traffic in slaves between this and other States was prohibited as early as 1798. There are two colleges in New Jersey; the College of New Jersey, or Nassau Hall, at Princeton, is a highly respectable institution; it has 13 instructors, upwards of 200 students, a library of 8000 volumes, &c. Rutgers College, at New Brunswick, was founded by the Dutch Reformed Church, and has a theological seminary connected with it. The Presbyterians have also a distinguished theological school at Princeton. There are several academies and high schools in the State, but primary education has been neglected. The Presbyterians are the prevalent sect; but the Baptists, Methodists, Dutch Reformed, Episcopalians, and Friends are numerous, and there are some Roman Catholics, Universalists, &c.

The State is divided into 14 counties, which are subdivided into 120 townships. Owing to the great emigration the population increased slowly until 1820, but since that time the increase has been more rapid, on account of the growth of manufactures:—

Counties.	Population.—1830.	County Towns.
Bergen	22,414	Hackensack
Burlington	31,066	Mount Holly
Cape May	4,945	Cape May C. H.
Cumberland	14,091	Bridgetown
Essex	41,928	Newark
Gloucester	28,431	Woodbury
Hunterdon	31,066	Trenton Flemington
Middlesex	23,157	New Brunswick
Monmouth	29,233	Freehold
Morris	23,580	Morristown
Salem	14,155	Salem
Somerset	17,689	Somerville
Sussex	20,349	Newton
Warren	18,634	Belvidere.

The city of Trenton, on the east bank of the Delaware, at the head of sloop navigation, is the capital of the State. It is regularly laid out, and contains the State-house, State-prison, and eight churches. A wooden bridge 1000 feet in length here crosses the river, just below the falls, and the Delaware and Raritan canal passes through the city. The falls afford extensive water-power for manufacturing purposes, and there are ten mills and manufactories in the vicinity. Trenton is memorable in the history of the revolution, for the victory gained over the British and Hessians by Washington, Dec. 26th, 1776. Crossing the Delaware in the midst of a violent snow-storm, he surprised and captured a detachment of the hostile forces stationed at this place. Population, 3925. Ten miles from Trenton is the village of Princeton, the seat of New Jersey College, and celebrated in the revolutionary history for the action of January 3d, 1777. The city of New Brunswick, at the head of sloop navigation on the Raritan, and at the termination of the Delaware and Raritan canal, and the New Jersey rail-road, is the depot of the produce of a fertile district, and a place of considerable trade. The upper streets are spacious and handsome, and command a fine prospect. Here are Rutgers college, and a theological seminary of the Dutch Reformed. The population of the city is about 6000. The canal basin, 200 feet wide and 1¼ mile long, lies in front of the city. Somerville is a thriving town, lying northwest of New Brunswick. At the mouth of the Raritan stands the city of Amboy, or Perth Amboy, with a good harbour, which is, however, little used. Rahway, further north, comprises several detached villages, containing numerous manufacturing establishments, and about 3000 inhabitants. Elizabethtown is a pretty and thriving town near Newark Bay, with 3450 inhabitants; it contains several mills.

The city of Newark, the largest and most important town in New Jersey, stands on the Passaic, three miles from Newark Bay, and has easy communication with New York by means of steam-boats and the New Jersey rail-road; the Morris canal also passes through the city. Newark is prettily situated and well built, with spacious streets and handsome houses, many of which are ornamented with fine shade trees. The manufactures are extensive, and its surplus produce sent off is estimated to amount to 8,000,000 dollars yearly. Carriages, shoes and boots, saddlery, jewelry, hats, furniture, &c. are among the articles produced. The population in 1830 was 10,953, in 1835 about 16,000. Paterson, at the falls of the Passaic, which afford an immense water-power, and are extensively applied to economical purposes, is one of the principal manufacturing towns in the country. Here are twenty cotton-mills, with numerous other works, such as paper-mills, seven machine-shops, button factories, iron and brass founderies, nail factories, woollen-mills, &c. The town contains ten churches, and the population increased from 7731, in 1830, to about 12,000 in 1835. Boonton, on the Morris canal, and Belvidere, on the Delaware, with numerous mill-seats, are flourishing towns, and contain some mills. Below Trenton, on the Delaware, is Bordentown, pleasantly situated on elevated ground overlooking the river, and standing at the termination of the Delaware and Raritan canal. The city of Burlington below Bordentown, is also a neat little town prettily situated on the banks of the river, with 2670 inhabitants. Steam-boats from Philadelphia touch at these places several times a day. The city of Camden, opposite Philadelphia, carries on some branches of manufacturing industry; ten steam ferry-boats are constantly plying between the two cities. Population, 2340. Red Bank, below Camden, was the scene of some fighting during the revolutionary war. There are no considerable towns in the sandy region. Longbranch, on the sea-coast, south of Shrewsbury Bay, deserves to be mentioned as a favourite watering-place.

3. *Commonwealth of Pennsylvania.*

This great State, from her central position, her dimensions, her natural resources, her grand artificial lines of communication, and her population, one of the most important in the Union, forms very nearly a regular parallelogram covering an area of 47,000 square miles. It has a general breadth of 168 miles, extended a little near the western edge by a triangular projection advancing beyond the general northern boundary to Lake Erie, and contracted nearly as much on the east by the intrusion of Delaware. The irregular river-line forms its eastern boundary, from which it stretches with an extreme length of 315 miles to the meridian of 80° 36′ W. lon.; its southern boundary is an imaginary line run on the parallel of 39° 43′ by Mason and Dixon, and taking its name from those astronomers; and its northern is the parallel of 42°, and, in the northwestern corner, Lake Erie.

Pennsylvania is the only State, except Virginia, which stretches quite across the great Appalachian system of mountains, and is thus naturally divided into three strongly marked regions, the eastern or Atlantic slope, the central mountainous region, and the western or Ohio and Erie table-land. The principal mountain chains definitely traceable in this State are, according to Mr. Darby, who has examined the subject with care, as follows:—

1. The South Mountain enters the State from New Jersey between Northampton and Bucks counties, and, after being interrupted by the Schuylkill above Pottstown, and by the Susquehanna near the southern border of the State, it passes into Maryland. 2. The Blue Ridge enters Pennsylvania below Easton, where it is pierced by the Delaware; pursuing a southwesterly direction, it is interrupted by the Schuylkill at Reading, by the Susquehanna below Harrisburg, and passes out of the State between Adams and Franklin counties. The elevation of the former ridge nowhere exceeds 1000 feet in this State; that of the latter is somewhat more. 3. The Blue Mountain, or Kittatinny, also enters this State from New Jersey, and is broken by the Delaware at the Water Gap, further west by a pass called the Wind Gap, by the Lehigh, by the Schuylkill above Hamburg, and by the Susquehanna five miles above Harrisburg. It then passes between Franklin and Bedford counties into Maryland. Its elevation in Pennsylvania varies from 800 to 1500 feet above the level of the sea. Between the Kittatinny mountain and the north branch of the Susquehanna river, a distance of about 35 miles, is the great anthracite region of Pennsylvania. 4. The Broad Mountain, which lies in the intervening space between the Kittatinny Mountain and the Susquehanna, forms a less continuous, but more elevated chain than the last mentioned. It appears to be continued southwest of the Susquehanna by the Tuscarora Mountains, which are pierced by the Juniata between Mifflin and Perry counties, and to pass into Maryland a little west of the Kittatinny chain. 5. Sideling Hill, which forms a well defined ridge from the Maryland line to the Juniata, on the southwest corner of Mifflin county, might, in Mr. Darby's opinion, be traced through Mifflin, Union, Columbia, and Luzerne counties. 6. The next well defined chain is the Alleghany Mountain, which forms the dividing ridge between the Atlantic basin and the Ohio valley. It is, therefore, the height of land between those two basins, although its summits do not rise to so great an elevation above its base, as do those of the

Broad Mountain above the base of that chain. The Alleghany rises in Bradford county, is pierced by the north branch of the Susquehanna below Towanda, traverses Lycoming county, where it crosses the west branch of the Susquehanna, and pursuing a southerly course separates Huntingdon and Bedford from Cambria and Somerset counties. Westward of the Alleghany chain, and on the Ohio slope, two well-defined chains cross the State from north to south, in a direction nearly parallel to that of the first mentioned, under the names of (7) the Laurel ridge, about 25 miles west of the Alleghanies, and (8) Chestnut ridge, 10 miles further west. Neither of these chains is very elevated.

Though in some places rude and rocky, many of these mountain ranges consist of gradually rising swells, cultivated to the summits, and the whole mountain region is interspersed with highly beautiful and productive valleys, some of which are of considerable extent and under excellent cultivation. The soil of the eastern coast is in part light and sandy, but the interior plains and valleys are composed of a deep rich loam, and there are comparatively few and inconsiderable tracts of absolute sterility.

Pennsylvania is well watered in every part, abounding in rivers, streams, rivulets, and brooks; but some of the principal rivers are so much obstructed that they serve rather as canal feeders than as navigable channels. The Delaware, which rises in the Catskill Mountains in New York, and bathes the eastern border of Pennsylvania, may yet be considered as belonging to the latter State, from which it receives its principal tributaries. Pursuing a southerly course, and piercing the Kittatinny and the Blue Ridge, the Delaware meets the tide 130 miles from the sea, at Trenton, to which place it is accessible for sloops; above that point the navigation is impeded by shoals, but there are no falls, and the river is, therefore, navigable for boats downward from near its source. Large ships ascend to Philadelphia, about 40 miles below which it expands into a broad bay. Its whole course is about 320 miles in length; the numerous canals connected with various points of the Pennsylvania coal region, and uniting its waters with those of the Hudson, the Raritan, and the Chesapeake, have greatly increased its importance as a channel of trade. Its principal tributaries in Pennsylvania are the Lackawaxen, the Lehigh, and the Schuylkill, which rise in the anthracite coal region; the latter has a course of about 130 miles, and is navigable for vessels of above 300 tons to Philadelphia, 6 miles below which it falls into the Delaware. The Susquehanna is the principal stream of Pennsylvania in point of size, but it is so much broken in its course by rapids and bars, as to afford little advantage for navigation without artificial aid; it rises in Otsego Lake in New York, and flowing in a circuitous, but generally southerly course, nearly parallel with the Delaware, it reaches the Chesapeake 400 miles from its source; its principal tributaries are all from the right; they are the Unadilla and Chenango in New York, and the Tioga, or Chemung, the West Branch, and the Juniata in Pennsylvania; the most considerable from the left are the Lackawannock, Swatara, and Conestoga. The channel of the Susquehanna is so winding and broken that even the descending navigation is extremely difficult and dangerous, and practicable only at certain seasons in particular stages of the water, and its tributaries partake of the same character. The Juniata rises in the Alleghany ridge, but the West Branch rises in numerous branches in the Laurel Hill, and pierces the Alleghany above Dunnstown.

The great rivers of Western Pennsylvania are tributaries, or rather the constituents of the Ohio. The Alleghany, rising on the northwestern slope of the same range with some of the remote sources of the West Branch, flows first north into New York, and then south to its junction with the Monongahela. It is navigable to Olean in New York, and to Waterford on French Creek, its principal western tributary, 14 miles from Lake Erie; small steamboats have even ascended to Olean, 240 miles from its mouth. The Kiskiminetas, or Conemaugh, the principal tributary from the east, rises in the western declivity of the Alleghany mountain, near the head waters of the Juniata, and pierces the Laurel and Chestnut ridges. The other constituent branch of the Ohio is the Monongahela, which descends from the Alleghany range in Virginia, and before its junction with the Alleghany, receives the Youghiogeny, a large stream from Maryland; both of these rivers afford boat navigation for a considerable distance, The Big Beaver is the only considerable tributary of the Ohio within this State; it is navigable for some distance above the falls near its mouth.

The mineral wealth of Pennsylvania is very great, and, although but recently begun to be fairly developed, already gives an earnest of its future importance. Iron, coal, and salt, the most valuable of minerals, occur in inexhaustible quantities. The coal of Pennsylvania is of two kinds, quite distinct in their character and localities. The anthracite or non-bituminous coal appears to be distributed in three great fields or basins over an extent of about 624,000 acres. The first bed extends from the Lehigh, across the head waters of the Schuylkill, to the Susquehanna, and lies south of Broad Mountain; the coal of this basin is of three qualities, that which burns freely and leaves a residuum of red ashes, found in the southern part; that which ignites with more difficulty and leaves gray ashes, found in a few veins of the middle; and a third, from the Lehigh or Mauch Chunk region, which is still harder, more difficult of ignition, and leaves white ashes. The second basin, called the

Shamokin or Beaver Meadow field, also extends from the Lehigh to the Susquehanna, north of the Broad Mountain; it has been but little worked. The third field or the Lackawanna or Wyoming basin, extends from the head waters of the Lackawanna to some distance below Wilkesbarre, on the Susquehanna; the coal is heavier and harder than that of the other beds and more difficult of ignition, but when ignited the heat is intense and the consumption slow. In 1820 the whole quantity of anthracite coal consumed was 365 tons; in 1835 there were shipped by the Delaware and Hudson canal 85,632 tons, by the Lehigh 128,498 tons, and by the Schuylkill 306,740 tons, in all 520,870 tons; exclusive of the consumption in the coal region, and the quantity shipped by the Susquehanna, making the whole consumption upwards of 600,000, of the value of more than 3,000,000 dollars. There are upwards of 100 miles of rail-road within the coal region.

The other kind of coal is the bituminous, which is found in all parts of the State west of the Alleghany ridge, excepting a narrow strip along the northern border. It seems not to be found east of that range, with the exception of a part of the Cumberland coal field on Will's Creek. The West Branch of the Susquehanna, being the only stream which pierces the Alleghany, has long served as a channel for bringing down small quantities of this coal to the eastern cities, but its consumption has been chiefly confined to the west. It has been estimated that about 290,000 tons are annually consumed in Pittsburg, and 166,000 at the salt-works on the Kiskiminetas, beside which it is sent down to Cincinnati, New Orleans, &c., in considerable quantities, and has lately begun to be applied to the smelting of iron. It is sold on the spot for about 50 or 60 cents a ton, and at distant places for from 5 to 10 dollars.

Salt is made from the salt-springs of the Kiskiminetas, Alleghany, and Beaver, which produce about 1,000,000 bushels yearly. Iron ore of an excellent quality is abundant, and is extensively worked; from the imperfect returns made to Congress in 1832, it appears that there were in the State at that time upwards of 60 furnaces, and 100 forges yielding annually about 45,000 tons of pig-iron, 8000 tons of blooms, 25,000 tons of bar-iron, and 9300 tons of castings; this statement must have fallen short of the real amount, and since that period the business has largely increased. Valuable limestone and marble also abound, and copper, zinc, &c., occur.

Wheat is the great agricultural staple of Pennsylvania, but the other cereal grains, with flax and hemp, are extensively cultivated; east of the mountains the country is generally under excellent cultivation; commodious farm-houses, and large barns and farm buildings, show the prosperity of the rural population. The breeds of horses and cattle are good, and considerable numbers of sheep are raised. The manufactures of Pennsylvania constitute an important branch of its industry, but it is to be lamented that we are in possession of few details on this subject; they include iron-ware of almost every description, machinery, hollow-ware, tools and implements, cutlery, nails, stoves and grates, &c.; glass, paper, cotton and woollen goods, leather, hats, boots and shoes, furniture, porcelain, &c., are also among the articles produced. The returns of 1832 state the amount of nails annually made to be 7000 tons, and there are said to have been at that time 60 cotton-mills producing annually about 20,000,000 yards of cotton cloth, and 2,200,000 lbs. of yarn. The foreign commerce of Pennsylvania is in part carried on through New York, Baltimore, and New Orleans, and its actual amount cannot therefore be fully ascertained; the value of the direct imports in 1834 was 10,479,268, of exports 3,989,746; an active inland trade is prosecuted on her canals, on Lake Erie, and on the Ohio, and her coasting-trade is extensive and valuable. The shipping belonging to the State, in 1833, amounted to 91,344 tons.

The works for the improvement of internal intercommunication have been executed partly by the State and partly by individuals, on a grand scale, along and over broad and rapid rivers, through rugged defiles, and over lofty mountains. Those of the State consist of several divisions composed of rail-roads and canals, extending across the country from tide-water to the Ohio, and branching off in different directions to almost every section of the State. The grand trunk extends from Philadelphia to Pittsburg, a distance by this route of 400 miles. The first division of the work, from Philadelphia to Columbia on the Susquehanna, is a rail-road, which passing the Schuylkill by a viaduct 1008 feet in length rises 187 feet by an inclined plane 2805 feet long, and enters Columbia by an inclined plane 1800 in length with a perpendicular descent of 90 feet; these planes are passed by stationary steam-engines, the former of 60 and the latter of 40 horse-power. At Columbia the canal begins, and is continued up the Susquehanna and Juniata to Holidaysburg, 172 miles, and 684 feet above Columbia, with a rise and fall of 748 feet;—the canal is 40 feet wide at top and 4 feet deep. The Alleghany ridge is then surmounted by the Alleghany Portage Railroad, 37 miles in length, with a rise and fall of 2570 feet; the road consists of 10 inclined planes covering about four miles, and passed by as many stationary engines, and 11 levels on eight of which horses are used, the other three being worked by locomotive steam-engines; the summit-level is 2490 feet above the sea. At Johnstown, the route is again continued by a canal, down the Kiskiminetas and Alleghany to Pittsburg, 104 miles, with a rise and fall of 471 feet. The principal branch of this great undertaking is the Susquehanna canal, extending from the mouth of the Juniata up the Susquehanna and the North Branch to the mouth of the Lackawanna, 115 miles; a second lateral division runs up the West Branch to Dunnstown, 66 miles; there are on the former 16 locks, and on the latter 19 guard and lift-locks. The Delaware branch extends from Bristol to Easton, 60 miles, with a rise of 170 feet; the Beaver branch, from the town of the name, up the Big Beaver and Shenango rivers to Newcastle, affords a navigable channel of 30 miles, by means of eight miles of excavation and seven dams in the river, with 18 guard and lift-locks. The French Creek branch extends up that river from Franklin at its mouth, to Meadville and Conneaut lake; total length 46 miles, or with the lake 50 miles, of which 27 miles is by excavation; there are 12 dams, and 18 guard and lift-locks on this division. Appropriations were also made in the spring of 1836, for continuing the Susquehanna branch towards the State line; for extending the West Branch division; for continuing the canal in the western part of the State toward Erie; and for ascertaining, by surveys, the practicability of connecting the West Branch with the Alleghany by a canal.

In the year 1835 the revenue derived from the public works was as follows:

Tolls on the Canals - - - - - -	$403,008
———— Rail-roads - - - -	194,623
Motive Power - - - - - - - -	86,726
Total	684,357

The principal works constructed by individuals are as follows: The Lackawaxen canal, extending from the mouth of that river on the Delaware to Honesdale, 25 miles, whence it is continued by a rail-road to Carbondale coal-mines, 16½ miles; the cost of these works was 2,000,000 dollars. The Lehigh canal starts from the termination of the Morris and Delaware canals, and goes to White Haven, 66 miles; the Mauch Chunk, Room Run, and Beaver Meadow rail-roads, connect this canal with the first and second coal basins. In this work some of the locks have from 20 to 30 feet lift, and it is expected that they can be filled in the usual time required for filling ordinary locks of 8 or 9 feet lift. Should this plan succeed, a vast deal of expense in the construction and of time in the passing of locks will be saved. It is also intended to substitute water for horses as a motive power in towing the boats. The Schuylkill canal connects Port Carbon with Philadelphia by a succession of pools and canals; the whole length of the navigation is 108 miles; effected by 58 miles of excavation, 34 dams, 129 locks, and one tunnel; the cost of this work was 2,500,000 dollars; about 50 miles of rail-road branch from this canal to various collieries. The Union canal connects the Schuylkill at Reading with the Susquehanna at Middletown, 82 miles; rise and fall 519 feet, 93 locks, and a tunnel 729 feet long. A lateral branch to Pine Grove, 23 miles up the Swatara, is connected by a rail-road with the coal-mines. The Union canal by the junction of the Grand Trunk and the Schuylkill canals, affords uninterrupted navigation from Philadelphia to the Lackawanna, Dunnstown, and Holidaysburg. The Susquehanna canal from Columbia to Port Deposit, 40 miles, connects the main trunk of the Pennsylvania canal with tide-water. The Conestoga navigation extends from Lancaster to the Susquehanna, and the Codorus navigation from York to the same river. The Nescopeck canal, in progress, will connect the Lehigh with the North Branch of the Susquehanna.

The principal rail-roads, exclusive of those in the coal region, which make an aggregate of about 100 miles, are the Philadelphia and Trenton rail-road connecting those two cities, 26¼ miles; the Philadelphia and Norristown, 17 miles, which is to be continued to Reading; the Central Rail-road from Pottsville to Sunbury, 44½ miles, with a branch to Danville; on this road there are several self-acting planes, other planes passed by stationary engines, and a tunnel 800 feet long. The Philadelphia and Delaware rail-road, 17 miles, is a part of the line of rail-road by Wilmington to Baltimore now in progress. The Oxford rail-road from Coatesville on the Columbia rail-road to Port Deposit, 31 miles; the Lancaster and Harrisburg rail-road, 37 miles; the Cumberland Valley rail-road, from the Susquehanna opposite Harrisburg to Chambersburg, 49 miles; the Wrightsville and Gettysburg rail-road from Columbia through York to Gettysburg, 40 miles; the Susquehanna and Little Schuylkill rail-road, from Catawissa to Tamaqua; the Williamsport and Elmira rail-road, from the West Branch to the Tioga, 70 miles; and the continuation of the Baltimore and Susquehanna, from the Maryland line through York to the Susquehanna, are in progress.

This country, in which some Swedes had settled at an early period, was annexed by the Dutch to their colony of New Netherlands, and shared its fate. In 1682, the property of the soil and powers of government were granted to William Penn, and settlements were soon made under his direction. A number of Friends were the first colonists, and Penn came over the next year and laid out the city of Philadelphia. During the French war of 1755, the western part of Pennsylvania was the theatre of hostilities between the English and French, and General Braddock, at the head of a body of English and colonial troops, was defeated, in an expedition against Fort Duquesne, a French fortress on the spot where Pittsburg now stands. During the revolutionary war, eastern Pennsylvania became the scene of military operations. Philadelphia was occupied by the British in 1777, and the Americans made an unsuccessful attack on the British camp at Germantown. The proprietary government of the colony continued till the period of the revolution. The present constitution was formed in 1790.

The legislative power is vested in a Senate and a House of Representatives, styled the General Assembly; the former are chosen by districts for the term of four years; the latter annually by the counties. The Governor is chosen by the people for the term of three years; every freeman of the age of 21 years, who has resided within the State during the two years next preceding an election and has paid a tax within that time, is entitled to vote. The judges are appointed by the Governor, and hold office during good behaviour. Little attention has been paid to the education of the people in this State, and, notwithstanding an express injunction of the constitution, no attempt was made to establish a general system of popular instruction until 1834, when an act was passed for that purpose, which was modified in 1836. This act authorises the towns to raise money for the support of common schools, and provides for the distribution of the proceeds of the State school-fund among those towns which shall adopt the school system. Ample provision has, however, been make for the gratuitous instruction of poor children in the county of Philadelphia, in which about 8500 annually enjoy its benefits. There are in the State 55 academies, 2 universities, 8 colleges, 5 theological seminaries, and 2 medical schools. The university of Pennsylvania is in Philadelphia, and the medical school connected with it is the most distinguished and most fully attended in the United States; the western university is at Pittsburg. Jefferson college at Canonsburg, which has a medical department in Philadelphia, Dickinson college at Carlisle, Alleghany college at Meadville, Washington college at Washington, Pennsylvania college at Gettysburg, Lafayette college at Easton, the Manual Labour Collegiate Institution at Bristol, and Marshall college at Mercersburg, are now in operation; Girard college, endowed with a fund of 2,000,000 dollars by Mr. Girard, and intended for the support and education of destitute orphans, is not yet organised. The Methodists and Presbyterians are the most numerous religious sects; the Lutherans, Baptists, German Reformed, and Friends, rank next in point of numbers; after them come Episcopalians and Roman Catholics, with some Moravians or United Brethren, Dutch Reformed, Universalists, &c.

Pennsylvania is divided into 53 counties, which are subdivided into townships and cities. Of the whole population amounting, in 1830, to 1,348,233, upwards of 600,000, or nearly one-half, were on the east of the Blue Mountain, occupying an area of about 8000 square miles, or little more than one-sixth of the whole surface. The capital is Harrisburg.

Counties.	Population.	County Towns.
Adams	21,379	Gettysburg
Allegheny	50,552	Pittsburg
Armstrong	17,701	Kittanning
Beaver	24,183	Beaver
Bedford	24,502	Bedford
Berks	53,152	Reading
Bradford	19,746	Towanda
Bucks	45,745	Doylestown
Butler	14,581	Butler
Cambria	7,076	Ebensburg
Centre	18,879	Bellefonte
Chester	50,910	West Chester
Clearfield	4,803	Clearfield
Columbia	20,059	Danville
Crawford	10,030	Meadville
Cumberland	29,226	Carlisle
Dauphin	25,243	Harrisburg
Delaware	17,323	Chester
Erie	17,041	Erie
Fayette	29,172	Union
Franklin	35,037	Chambersburg
Greene	18,028	Waynesburg
Huntingdon	27,145	Huntingdon
Indiana	14,251	Indiana
Jefferson	2,025	Brookville
Juniata	formed since 1830	Lewistown
Lancaster	76,631	Lancaster
Lebanon	20,557	Lebanon
Lehigh	22,256	Allentown

Counties.	Population.	County Towns.
Luzerne	27,379	Wilkesbarre
Lycoming	17,636	Williamsport
McKean	1,439	Smethport
Mercer	19,729	Mercer
Mifflin	21,690	Lewistown
Monroe	——	formed in 1836
Montgomery	39,406	Norristown
Northumberland	18,133	Sunbury
Northampton	39,482	Easton
Perry	14,261	Bloomfield
Philadelphia	188,797	Philadelphia
Potter	1,265	Coudersport
Pike	4,843	Milford
Schuylkill	20,744	Orwigsburg
Somerset	17,762	Somerset
Susquehanna	16,787	Montrose
Tioga	8,978	Wellsboro
Union	20,795	New Berlin
Venango	9,470	Franklin
Warren	4,697	Warren
Washington	42,784	Washington
Wayne	7,663	Bethany
Westmoreland	38,400	Greensburg
York	42,859	York.

Population of the State at Different Periods.

	Total.	Slaves.
1790	434,373	3,737
1800	602,365	1,703
1810	810,091	795
1820	1,049,458	211
1830	1,348,233	67

Of this number 38,266 are coloured persons. The returns of the census of 1830, give 403 slaves in Pennsylvania; but it appears by a report of a committee of the legislature, that this statement is incorrect, and that the actual number of slaves, was only 67; the remainder so reported, having been, in fact, manumitted slaves, or the children of slaves held to service for a limited period. The laws of the State provide that no person born within the State after the year 1780, shall be held as a slave or servant for life, but that the children of a slave shall be considered servants of the owner until the age of 28 years. A considerable portion of the population of Pennsylvania are Germans or of German extraction; but we have not been able to ascertain with any precision the actual amount of this class. Many of them speak both English and German, but there are great numbers who understand only the latter; many of the preachers use German exclusively in their pulpits, but some employ the two languages alternately. The official proceedings in the courts are in English, even in those counties where but few of the inhabitants understand it; and the German patois may be considered as gradually going out of use. "There is something very harsh and unmusical in the dialect which this people speak, and which differs of course from the classical German, which Goethe and Schiller have immortalized. The German of Pennsylvania is to all intents and purposes an unwritten language, transmitted from mouth to mouth, and, therefore, constantly corrupted, and changed by the introduction of foreign and newfangled words. We have been at pains to count the words in a legislative document, professing to be in the German language; and have discovered that about one-fourth of the whole number are English words a little disguised by the German mode of spelling. A German scholar set down among the farmers of Lancaster, would probably be as little able to comprehend what he heard, or to make himself understood, as if he had lighted upon a tribe of Aborigines. Besides the peculiarity of language, two other characteristics invariably mark a German settlement; namely, huge stone barns, and gigantic horses immoderately fat. It seems as if these frugal and industrious people looked first to the preservation of their crops and the comfort of their cattle, and devoted no more attention to their own accommodation, than could be spared after these primary objects had been accomplished. Not that their dwellings are bad; on the contrary, they are substantial, durable, and of sufficient size. But they always look diminutive in comparison with the barns, and the fact is always obvious, that attention has been given to the useful and the productive far above the beautiful or the ornamental."

The city of Philadelphia (*fig.* 1127.), the principal city of the State and the second of America, and one of the most regularly laid out and handsomely built in the world, stands on a flat alluvial peninsula between the Delaware and the Schuylkill, about 5 miles above their junction, and 100 miles from the sea by the course of the former. Second only to New York in population, and inferior only to that city and Boston in the extent of its commerce, it yields to none in the Union in the wealth, industry, and intelligence of its citizens. Philadelphia has the advantage of a double port, connected with very remote sections; that on the Schuylkill is accessible to vessels of 300 tons, and is the great depôt for the coal of the interior; the other on the Delaware admits the largest merchant vessels to the doors of the warehouses, and is spacious and secure. The streets are broad and straight, crossing each other at right angles, and dividing the city into numerous squares, some of which have been reserved for public walks, and are ornamented with fine shade and flowering trees; the main streets, running east and west from the Delaware to the Schuylkill, are 10 in number, and are intersected by 25, which run from north to south; they are from 60 to 112 feet wide, paved with round stones which are kept very clean by frequent sweeping and washing, and bordered on both sides by wide footways neatly paved with brick, and sometimes shaded by long rows of trees, which give an air of rural beauty to some of the busiest quarters of the city. Numerous smaller streets and alleys, amounting in all to above 600, divide the different squares. The dwelling-houses are neat and commodious, and the public buildings, generally constructed of white marble, are the most elegant in the country. Two bridges cross the Schuylkill, one of which is remarkable for its arch of 324 feet span, the longest in the world.

1127

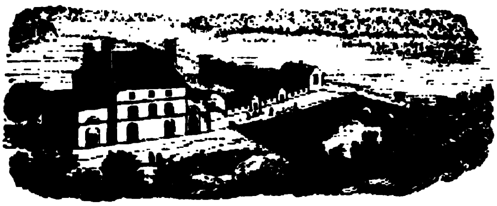
Philadelphia.

Numerous steam-boats afford constant and easy communication with Baltimore and New York, and, with the rail-roads into the interior, render Philadelphia the great thoroughfare between the north and south, and the east and west. Several corporate governments have been established for municipal purposes, so that Philadelphia includes the City Proper, with Southwark, Moyamensing, and Passyunk on the south, and Kensington, Northern Liberties, Spring Garden and Penn Township, on the north; having a population in 1790 of 42,520, in 1810 of 96,664, and in 1830 of 167,811. The manufactures of Philadelphia are various and extensive; her foreign commerce is considerable, the arrivals from foreign ports, in 1835, having been 429, and the value of her imports being between 10,000,000 and 12,000,000 dollars a year; her inland commerce is also very extensive and rapidly increasing in consequence of the facilities afforded by the numerous canals and rail-roads that centre here, affording an easy communication with all sections of the State and with the great western valley. There are about 500,000 barrels of flour and 3600 hogsheads of tobacco inspected, and upwards of 800,000 bushels of grain measured here annually. The shipping belonging to the port in 1833 was 79,550 tons. There are in the city 16 banks with a capital of 51,900,000 dollars.

Philadelphia is noted for the number and excellence of its benevolent institutions; among these are the Pennsylvania Hospital, with which is connected an Insane Asylum; the dispensary, by which upwards of 5000 indigent sick are relieved; Wills' Hospital for the Lame and Blind; the institutions for the Deaf and Dumb and for the Blind, the Alms House, Magdalen Asylum, Orphan Asylums, Girard College for Orphans, &c. The Society for alleviating the miseries of Public Prisons has not only distinguished itself by its successful efforts in reforming the penal code of the State, but in improving the conditions of the prisons; the discipline adopted by the influence of this society consists in solitary confinement with labour, and the Penitentiaries of Pennsylvania are conducted on this plan. The learned institutions of Philadelphia are equally distinguished; they are the American Philosophical Society, with a library of 9000 volumes; the Academy of Natural Sciences, with a good cabinet and a valuable library of 5500 volumes; the Pennsylvania Historical Society, and the Franklin Institute, all of which have published some valuable volumes. The Medical Schools are also much frequented and highly celebrated. The City Library, including the Loganian collection, consists of 42,000 volumes. There is also an Academy of the Fine Arts here. Free schools are supported at the public charge, and educate about 9500 scholars annually, at an expense of 56,000 dollars. The principal public buildings are the United States Bank on the model of the Parthenon, and the Pennsylvania Bank of the Ionic order, both elegant specimens of classical architecture; the Mint, a handsome building with Ionic porticoes, 62 feet long, on each front; the Exchange, 95 feet by 114, with a recessed portico of four Corinthian columns on one front, and a semicircular portico of eight columns on the other, containing a spacious Hall, News Room, the Post Office, &c.; the Girard Bank, with a Roman Corinthian portico; Girard College a splendid structure, 111 feet by 169, with a colonnade of Grecian Corinthian columns entirely surrounding it; all these buildings are of white marble. The United States Marine Asylum, capable of accommodating 400 men, with a front of 385 feet, embellished by eight Ionic columns; the Alms House, on the west bank of the Schuylkill, consisting of four distinct buildings with nearly 4000 rooms; the State House, interesting from its having been the place where the Declaration of Independence was adopted and promulgated; the United States Arsenal, &c., also deserve mention. There are here 100 churches and places of public worship, including 2 synagogues. The State Penitentiary and the County Prison are not less remarkable for their architecture, than for their discipline. The former consists of a massive wall of granite 30 feet high, enclosing an area 640 feet square; there is a tower at each angle of the wall, and in the centre building of the principal front are two square towers 50 feet in height, and an octangular tower 80 feet high; the style of architecture is the Norman Military, and the whole effect is very imposing; in the centre of the enclosed space is an observatory, from which radiate in all directions corridors, on each side of which the cells are placed. The County Prison of Quincy granite has a front of 310 feet by 525 in depth, consisting of a centre building 50 feet wide, surmounted by an octagonal tower 80 feet high, and flanked by wings, terminated by massive octagonal towers; the façade is in the castellated Gothic style. The cells, 408 in number, are comprised in two blocks, each containing two ranges opening into a central corridor, and are furnished with hydrants, flues for ventilation and warming, and water-closets. Separate buildings contain the kitchen, laundry, baths, work-shops, &c. Adjoining is the debtors' prison, 90 feet front by 120 deep, built in the Egyptian style of red freestone. There is a Navy-Yard here, but ships of war of the largest class cannot ascend to the city with their armament.

The inhabitants are liberally supplied with water by the Fairmount works (*fig.* 1128.), constructed at an expense of 432,500 dollars; the river is here dammed back, and is thus made to carry eight wheels of 15 feet in length and 16 in diameter, which work as many double forcing-pumps; the water is driven up into the reservoirs on Mount Fairmount, which are 56 feet above the highest part of the city, and which contain 22 million gallons; 93 miles of pipe convey it to all parts of the city. The daily consumption in summer is about 4,000,000 gallons, by 18,704 tenants, or 187 gallons on an average to each; annual rents 92,116 dollars; annual charge 14,000.

1128



Water Works, Philadelphia.

Philadelphia was founded by William Penn in 1682; in 1774, the first Congress of delegates from the United Colonies was held here in Carpenters' Hall, and in 1776 the memorable Declaration of Independence was adopted in the State House. The city fell into the hands of the British in September 1777, and was occupied by them until June 1778; the Articles of Confederation were ratified here in the same year, and here, in 1787, was framed the present constitution by a convention of delegates from the United States. Philadelphia continued to be the seat of government under the new constitution until the year 1800.

The section of country lying between the Schuylkill and Delaware rivers, and southeast of the Blue Ridge, is highly productive, and contains several flourishing towns. The borough of Frankford, on the Delaware, is the seat of numerous manufacturing establishments, including several cotton-mills, calico print-works and bleacheries, woollen-mills, iron-works, &c. Here are also an Arsenal of the United States, and a Lunatic Asylum belonging to the Friends. At Bristol, a neat town, prettily situated on the Delaware, is a Manual Labour Collegiate Institution. Germantown, a flourishing and pleasant town, with 4311 inhabitants, containing a bank, some manufactures, &c., and the principal seat of the Mennonists in America, consists chiefly of one long street, extending a distance of two miles. It was the scene of a battle between the British and American forces on the 4th of October, 1777. Manyunk, on the Schuylkill, has the command of extensive water-power, which has been applied to manufacturing purposes. There are here about 20 mills, and the population exceeds 1000. Reading is a prosperous town on the left bank of the Schuylkill, and at the termination of the Union Canal. Its favourable situation as the depôt of a highly cultivated district, has been improved by its industrious inhabitants, and Reading is the centre of an active trade and the seat of considerable manufacturing industry; it is particularly noted for the manufacture of hats. The town is regularly built, and was originally settled by Germans; several newspapers are still printed here in that language, though English is generally understood. Population, 5856.

The region between the Schuylkill and the Susquehanna is still more favourably distinguished for its fertility, populousness, and wealth, and it contains extensive flour-mills, with numerous cotton, woollen, paper, saw, and oil mills, iron-works, &c. West Chester is a neat and flourishing town, in the fertile valley of the Brandywine, which affords numerous mill-seats. Here are an Academy, a Female Seminary, a Cabinet of Natural Science, &c. A branch rail-road of nine miles in length, extends from the town to the Columbia rail-road. The population is about 1500. The battle of the Brandywine was fought near this place in 1777, and to the north is Valley Forge, in which were the winter quarters of the American army in 1778. The city of Lancaster, pleasantly situated in the fertile and highly cultivated Conestoga valley, is one of the handsomest towns in the State; the streets are regular, and among the public buildings are 12 churches, an academy, &c. The trade of the town is extensive, and the manufactures various and considerable: it is noted for the superior quality of its rifles, for its coaches and rail-road cars, stockings, saddlery, &c. Among the numerous journals printed here there are several in the German language. The population amounts to 7704. Lancaster is connected with Philadelphia and Harrisburg by rail-roads, and with the Susquehanna below Columbia by a canal. Ephrata, in the vicinity, is remarkable as having been the seat of the Seventh-Day Baptists, a German sect who established themselves here in 1728, and held their property in common; they erected a large building called the kloster, or monastery, containing a number of small cells, and generally practised celibacy, though marriage was rather discountenanced than forbidden. The society, which was supported by the labour of the brothers and sisters, was for some time in flourishing circumstances, and had, beside several chapels and brothers' and sisters' houses, numerous mills and work-shops; their school was also highly esteemed, and several religious works were issued from their press. Most of them are now married, and although the property of the society is still held in common, the members apply the proceeds of their labour to their own use. The principal settlement of this sect is now at Snowhill in Franklin county. In a rich agricultural district beyond the Susquehanna, is York, with 4216 inhabitants. An appropriation has been made by the State for continuing the Wrightsville and Gettysburg rail-road, which passes through York, to the Chesapeake and Ohio canal near Williamsport, thus connecting this town with Philadelphia on the one side and Baltimore on the other. Gettysburg contains Pennsylvania College and a Lutheran Theological Seminary.

Crossing the Blue Ridge we enter a fine valley, extending from the southern border of the State, in a northeasterly direction, to the Delaware, and bounded on the north by the Kittatinny range, possessing a highly fertile soil under high cultivation, with considerable mineral wealth, and enjoying the advantage of numerous outlets by the Delaware, the Schuylkill, the Susquehanna, and the Potomac. This district contains a dense, industrious, and wealthy agricultural population; there is a great number of flour-mills and iron-works in the valley. Easton, at the confluence of the Lehigh and the Delaware, and the termination of the Morris canal, is one of the most flourishing inland towns in the State. It is the centre of the corn-trade of the northeastern part of the valley, and of its continuation in New Jersey, and one of the best flour markets in the country. The Lehigh and its tributary streams supply an abundance of water-power, and there are in the borough and its immediate neighbourhood 18 flour-mills, 4 oil-mills, saw-mills, &c. The situation is highly picturesque, and the borough contains five churches, a manual labour collegiate institution, a library with a mineralogical cabinet, &c. The population in 1830 was 3700, but at present is about 5000. Bethlehem, the principal settlement of the Moravians, or United Brethren, stands on the Lehigh above Easton, and occupies a fine situation rising from the river; the borough is neatly built upon three streets, and contains a Gothic church and a celebrated female seminary. Population, 2430. Nazareth, ten miles from Bethlehem, is also a Moravian village. Allentown, further up the river, with 2200 inhabitants, delightfully situated on an elevated and commanding site, is a well-built, busy, and thriving town. Lebanon, a flourishing town, whose population increased from 1437 in 1820, to 3555 in 1830, is the depôt of a rich agricultural district, which also contains a great number of iron-works. Harrisburg, the capital of the State, stands on the left bank of the Susquehanna, on a plain which gradually swells above the town to a commanding eminence overlooking the river and the adjacent country. The State-house is a neat and commodious building, from the summit of which there is a fine prospect, embracing rich valleys, bold hills, and the broad bosom of the Susquehanna. The plan of the town is regular; the population, 4311. Beyond the Susquehanna are the thriving towns of Carlisle and Chambersburg, the former containing 3707, and the latter 2783 inhabitants. Carlisle is the seat of Dickinson College.

The region north of the Kittatinny Mountain, and between the Susquehanna and Delaware, presents a striking contrast to the one just reviewed, in its external aspect and in the character of its products. Although it contains some highly fertile valleys, the surface is generally rugged, and many of the hills are rocky and sterile. The eastern part is at present chiefly valuable for the lumber afforded by its dense forests, but the central portion is the region of the anthracite coal mines, of which we have already given some account. Since this coal has been applied to useful purposes, this tract, before almost unoccupied, has received a large accession of inhabitants, and is now the scene of profitable industry. Iron has also recently been found here. Pottsville on the Schuylkill, Mauch Chunk on the Lehigh, and Wilkesbarre on the Susquehanna, are the principal towns. Pottsville is situated in a wild district, and the site is uneven, but it contains many handsome dwellings, and its population, which in 1825 did not exceed 300, amounted, in 1835, to 3330. Mauch Chunk, first settled in 1821, is also built on very broken ground, but in addition to the coal trade it enjoys the advantage of an extensive water-power which is used for manufacturing purposes, and its population at present exceeds 2000. Wilkesbarre stands in the delightful valley of Wyoming, whose rural beauty and peaceful shades, once stained with blood and desolated with fire, have been consecrated by the deathless muse; the geographer, however, must record that it is one of the great coal deposits of Eastern Pennsylvania. The population of Wilkesbarre is 2233. Honesdale, at the head of the Lackawaxen, is a thriving little town. Sunbury, although on the east side of the Susquehanna, lies beyond the precincts of the coal region, and occupies a part of a fertile plain extending along the left bank of the river.

Westward of the portion of the State already described, and reaching to the Alleghany Mountain, lies a strip of mountainous country about 50 miles in width, which extends quite across the breadth of Pennsylvania. It consists of a great number of mountain ranges broken through by the Juniata and the West Branch, and is in general extremely rugged and unsuited to cultivation; but it includes many fine valleys of great fertility, and a considerable portion of the tract between the North and West Branch is occupied by fine farms, yielding in productiveness to none in the State. The remainder of the mountain region south of the West Branch, is stored with valuable ores of iron, yielding a metal of the best quality; the Bald Eagle Creek and Juniata iron are highly esteemed; the annual produce in 1832 was about 20,000 tons of pig-iron, and 7000 tons of bloom. There are no large towns in this section, but Williamsport and Lewisburg on the West Branch, Bellefonte on Bald Eagle Creek, and Lewiston and Huntingdon on the Juniata, are growing towns, and Holidaysburg derives importance from its situation at the termination of the canal on the eastern side of the mountain. The Bedford chalybeate springs, further south, are much resorted to in summer, on account of their elevated and cool situation. In the southeast corner of this section the coal and salt formation seems to have intruded itself into the region east of the Alleghany, as those minerals are found on the head-waters of the southern branch of the Juniata, and on Wills' Creek, a tributary of the Potomac.

West of the Alleghany, the surface of the country, although generally undulating and varied, is rarely rugged, or unfit for cultivation. The descent from the Alleghany Mountain is gradual, and the whole region is elevated from 800 to 1200 feet above the level of the sea. To the iron of the central mountainous region, it adds inexhaustible stores of bituminous coal and salt, and agricultural advantages equal to any part of the State. The white-pine forests of its northwestern section yield an abundant supply of valuable lumber, 30,000,000 feet of which are annually transported down the Alleghany. The coal is delivered at the mines at from one cent to two cents a bushel, and beside furnishing a cheap fuel for manufacturing purposes, it is transported to Cincinnati, New Orleans, and the intermediate places, where it is sold at from 5 to 10 dollars a ton; it is spread over an area of 21,000 square miles. Wool and live stock, and wheat are also staples of this region, and its manufactures are extensive. Pittsburg, the principal city of Western Pennsylvania, and the largest inland city in the country, is built partly upon a low, alluvial point at the junction of the Monongahela and the Alleghany, and partly upon the opposite banks of those two rivers. The city proper includes only the tract between the rivers, but as the little towns of Birmingham, Alleghenytown, &c. really form a part of Pittsburg, they must properly be included in its description. Perhaps its site is unrivalled in the world; commanding a navigation of about 50,000 miles, which gives it access to the most fertile region on the face of the globe; surrounded by inexhaustible beds of the most useful minerals; connected by artificial works which top the great natural barrier on the east, with the three principal cities of the Atlantic border on one side, and by others not less extensive, with those great inland seas that already bear on their bosoms the trade of industrious millions, Pittsburg is doubtless destined to become one of the most important centres of population, industry, and wealth in the United States. The population of the place in 1800 was about 1600; in 1820, 10,000; in 1830, 18,000, of which the city proper comprised 12,568, and in 1835 it was estimated to exceed 35,000. In 1833 there were here 90 steam-engines, and in 1835 the number was stated to be 120; 16 large founderies and engine factories, with numerous small works; 9 rolling-mills, 6 cotton establishments with 20,000 spindles and 116 looms, 6 white-lead factories, 5 extensive and several smaller breweries, 6 saw and 4 grist-mills, and 10 glass-works, with brass founderies, steel manufactories, tanneries, salt-works, paper-mills, manufactories of cutlery and agricultural implements, &c. are among the 300 manufacturing establishments of Pittsburg. Of its trade we can give no satisfactory details. The city is regularly built, but the clouds of smoke in which it is constantly enveloped, give it rather a dingy appearance; in the rear of the plain on which it stands, rise on all sides gently sloping hills, affording numerous agreeable sites commanding delightful views of the surrounding country. Among the public establishments here are the Alleghany Arsenal belonging to the United States, consisting of an enclosed plot of 31 acres, containing a magazine of arms, a powder magazine, an armoury with the necessary work-shops, officers' quarters, barracks, &c.; the Western Penitentiary of the State, the Western University, a Presbyterian and a Reformed Theological Seminary, 50 churches and places of worship, 55 Sunday-schools, 60 common and 12 select schools, &c. A steam-engine supplies the city with 1,500,000 gallons of water daily. The site of Pittsburg was first occupied as the French Fort Duquesne, in the neighbourhood of which the British and Colonial troops under General Braddock suffered a disastrous defeat in 1755. Fort Pitt was afterwards built here by the English. In the district to the south of Pittsburg, Washington, Brownsville, and Union are thriving towns. Canonsburg is the seat of Jefferson College.

Below Pittsburg, on the north bank of the Ohio, is the village of Economy founded by the sect of Harmonists, under the celebrated Rapp; they were about 900 in number in 1832, when a number of them seceded and joined Count Leon, who claimed to be a messenger sent from Heaven to establish a Zion in the west. The Harmonists hold their property in common, and are not permitted to marry; they have a number of mills, and are distinguished for their industry and sobriety. The followers of Count Leon settled at Philippsburg, opposite Beaver, but the society soon fell to pieces. Beaver, at the mouth of the river of the same name, is a thriving town, which is indebted for its prosperity to the great water-power afforded by the falls of that stream. Numerous mills and manufacturing establishments have recently been erected on both sides of the river above the village, and the whole population of the neighbourhood is about 5000. The completion of the connecting links between the Ohio and Pennsylvania canals, will give a great impulse to the trade of this place. Butler and Franklin to the north, Blossburg on the Tioga, and Farrandsville on the West Branch, are growing towns; Meadville is the seat of a college. Erie, on the lake of the same name, is important on account of its harbour, which is protected by several piers; it was formerly called the Presqu'isle, or Peninsula, on account of a long tongue of land which projects into the lake in front of the town; the neck, however, has lately been washed away, converting the peninsula into an island, and affording a double channel into the harbour, which is accessible to the largest lake vessels.

4. *Delaware State.*

Delaware has the bay of the same name and the Atlantic ocean on the east, Maryland on the south and west, and Pennsylvania on the north. Extending from 38° 27′ to 39° 50′ N. lat., it is 92 miles in length from north to south, and from 10 to 36 miles in breadth, with an area of 2120 square miles. It is the smallest State in the Union with the exception of Rhode Island, and in point of population is even inferior to that State. The surface forms an almost perfect level, which in the southern part is marshy, and in the north is slightly undulating; it has a general slope toward the Delaware and the ocean, but in the southwest sends off the Nanticoke into Chesapeake Bay. The principal river is the Brandywine, which is a fine mill-stream. At Wilmington, it receives Christiana creek from the west, and their united waters form the harbour of Wilmington. Along the Delaware, about ten miles in width, is a strip of rich clayey soil, which produces large timber and is well adapted to tillage; in general the soil is thin and sandy. Bog-iron ore is found in the southern part of the State, where there are two forges and a furnace. The foreign commerce of Delaware is inconsiderable, but an active coasting-trade is carried on. There were in the State, in 1833, 15 cotton-mills with 25,000 spindles, producing annually 1,350,000 lbs. of yarn; 6 machine-shops, 2 founderies, and one rolling-mill; 2 woollen manufactories; 30 tanneries; 3 paper-mills; 2 powder-mills producing about 1,100,000 lbs.; 20 quercitron mills; 72 flour-mills, 22 of which are merchant-mills, and produce annually 96,000 barrels of flour and 55,000 of Indian-corn meal; 40 saw-mills, &c. The Delaware and Chesapeake canal is a highly important work, from its connecting those two great estuaries by a channel navigable by sea-vessels; it is 10 feet deep, 66 feet wide, and nearly 14 miles in length: it has two tide and two lift-locks, and was constructed at an expense of 2,200,000 dollars. Here is also a rail-road extending across the State from Newcastle on the Delaware, to Frenchtown on Elk river, 16¼ miles long; and the Wilmington and Susquehanna rail-road now in progress forms a link in the route which is to unite Philadelphia and Baltimore.

This part of the country was first settled by Swedes and Finns, in 1627, and was called New Swedeland. The Dutch, however, afterward annexed it to their colony of New Netherlands, and with that it passed into the hands of the English in 1664. In 1682 the Duke of York granted it to Penn, and it continued to form a part of Pennsylvania till 1776, though from 1701 with a distinct legislative assembly. It was generally styled, till the period of the revolution, the Three Lower Counties upon Delaware. A new constitution of government was adopted in 1831. The legislative power is vested in a General Assembly, consisting of a Senate and House of Representatives. The former are chosen for four years, three from each county; the latter for two years, seven from each county; one session is held every two years. The Governor is elected by the people for the term of four years, and is ever after ineligible. The right of suffrage belongs to every white male citizen of the age of 22, who has resided one year within the State, and paid a county-tax; and every white male citizen under the age of 22 years and of the age of 21, is entitled to vote, though not having paid a tax. The Judges are appointed by the Governor, and hold office during good behaviour. The State is divided into school districts, which are authorised to lay a tax for the support of free-schools, and the income of the school-fund of 180,000 dollars is divided among those districts that raise a sum equal to their proportion of the proceeds of the fund; the number of school districts is 133. There are several academies in the State, and a college at Newark. The Presbyterians and Methodists form the mass of the population; there are also Episcopalians, Baptists, and Friends.

Delaware is divided into three Counties, which are subdivided into Hundreds.

Counties.	Population	County Towns.
Newcastle	29,720	Newcastle, Wilmington.
Kent	19,913	Dover.
Sussex	27,115	Georgetown.

Population at Different Periods.

	Total.	Slaves.
1790	59,096	8,887
1800	64,273	6,153
1810	72,674	4,177
1820	72,749	4,509
1830	76,748	3,292.

The city of Wilmington, pleasantly situated near the junction of the Brandywine and Christiana, is a well-built, growing town, and the most important in the State. It contains an arsenal, hospital, 13 churches, &c., and is supplied with water by water-works on the Brandywine. Its trade is extensive, and it sends several ships to the whale-fishery. In the immediate vicinity there are about 100 mills and manufactories, producing flour, paper, iron-ware, powder, and cotton and woollen goods; the Brandywine flour-mills are among the most extensive in the United States. The population, which in 1830 was 6628, is now about 10,000. Newcastle, below Wilmington, is a little village at the termination of the rail-road. Dover, the seat of government, contains the State-house, and about 1500 inhabitants. Lewistown is a village near Cape Henlopen, in front of which has been erected the Delaware Breakwater. The work consists of two piers, an ice-breaker 1500 feet in length, and a breakwater 3600 feet long, not yet fully completed; estimated cost 2,216,950 dollars.

5. *State of Maryland.*

The State of Maryland is extremely irregular in its outlines, except on the north, where Mason and Dixon's line constitutes its frontier, which is coincident with that of Pennsylvania. On the south, the Potomac, with a winding channel and a circuitous general course, ascending with many deviations from 39° 15′ to 39° 40′ N. lat., where it approaches to within three miles of the northern border, and then again descending by an equally devious route to the lat. of 38°, is its limitary stream. The main body of the eastern section is bounded by an imaginary line separating it from the Delaware State; but a narrow strip, projecting eastward to the sea, intrudes itself between that State and a part of Virginia. Chesapeake Bay, running quite through the State from north to south, adds to the irregularity of its conformation. The whole area of Maryland is rather more than 13,600 square miles, but its land area is only about two-thirds of that amount. The section of the State lying east of the Chesapeake Bay, is locally called the Eastern Shore, and the whole tract, which is nearly enclosed by the Ocean and its two great inland arms, the Delaware and Chesapeake bays, has been appropriately named by Darby the Chesapeake peninsula. Including nearly the whole of the Delaware State, with the Eastern Shore of Maryland and Virginia, this peninsula is 180 miles in length, from Elkton to Cape Charles, and has an area of about 5000 square miles; the neck between the enclosing bays is only about 15 miles wide, but as it stretches south, it expands gradually to the width of 70 miles in its central part, whence it again contracts until it terminates in a long, narrow tongue about 50 miles in length by 10 broad. Chesapeake Peninsula contains no considerable elevation; it consists of an extensive level but little raised above the sea, and chiefly composed of beds of sand

and clay. The western coast is deeply indented by numerous spacious gulfs, such as Pocomoke, Nanticoke, Choptank, Chester, and Elk River bays, receiving considerable rivers, and affording great facilities for navigation. The features of the eastern coast present a striking contrast. "Between the ocean and the cultivable portion of the country, there is a prolonged sandy beach varying from a few hundred yards to a quarter of a mile and upwards in breadth, and extending the whole length of the coast without a single outlet to the ocean, from Indian River in Delaware, to the southern extremity of Chincoteague Island in Virginia. Between this beach and the main land lies Sinepuxent Bay, from one to 4 or 5 miles wide, and nearly 30 in length. It is a shallow sheet of water, navigable only to a short distance above South Point, at the lower end of Sinepuxent neck." Some inlets which formerly existed in this beach and admitted the sea, are now closed, and the waters of the bay have become comparatively fresh. The Western Shore of Maryland consists of another peninsula, lying between the Potomac and the Chesapeake, and below the line of the river falls, which extends from above Port Deposit to above Georgetown. It closely resembles the tract already described in its general features. West of this region, a well-defined mountain-range of no great elevation stretches across the State; and further west we reach in succession the Southeast Mountain, terminating at Sugar Loaf Mountain on the Potomac; Cotoctin Mountain, reaching the same river at the Point of Rocks; the Blue Ridge, crossing it at Harper's Ferry; the Kittatinny, crossing it at Hancock; Rugged Mountain, Will's Mountain, and other detached chains, and the great Alleghany ridge traversing the western part of the State.

The great expanse of Chesapeake Bay lies principally in Maryland; its entrance, between Cape Charles and Cape Henry in Virginia, is about 15 miles in width, and lies from east to west; but, on penetrating the land, it suddenly changes its direction, and stretches from south to north over a distance of 180 miles, with a width in the southern part of from 20 to 30 miles, and in the northern of about ten, throwing off on both sides numerous wide arms, which form deep indentations in its eastern and western coasts; it is throughout deep and navigable by large vessels, and it receives a great many deep and navigable rivers, of which the principal are from Virginia; its area is about 3500 square miles. The Susquehanna has the lower part of its course in Maryland; the tide reaches Port Deposit, five miles from its mouth, above which there are falls. The Patapsco is a fine mill-stream, which falls into a bay of the same name, below Baltimore. The Patuxent, the principal river of the Western Shore, is a wide stream flowing nearly parallel to the Potomac, and navigable to Nottingham, about 50 miles, for large vessels. The Elk, Chester, Choptank, Nanticoke, and Pocomoke, on the Eastern Shore, are navigable from 30 to 40 miles. The Monocacy, Antietam, and Conecocheague, are the principal tributaries of the Potomac in Maryland.

The mineral kingdom in Maryland contains an abundance of the valuable materials of industry. Bituminous coal is found in the western part of the State in two principal fields; the Cumberland field, extending from Will's Creek to the head branch of the Potomac, is from five to seven miles wide by about 60 in length, covering an area of 400 square miles; the coal is in beds of from 3 to 15 feet thick, and is of an excellent quality, burning easily with a bright and durable flame, caking, and leaving little residue. The Youghiogeny field lies west of the great Back Bone or Alleghany Ridge, and has beds of 20 feet in thickness. Iron ore abounds in every part of the State; the bog ore occurs in the southern part of the Eastern Shore, where it is extensively worked; brown and hone ores, which work easily and yield an average of from 40 to 50 per cent. of metal, are found in the low tract on the Western Shore. In the region west of the low country the titaniferous iron ore is found on Deer Creek, and the Monocacy valley contains the specular ore; beyond the Cotoctin the pipe or limestone ore, yielding metal of excellent quality, occurs, and in the Youghiogeny district there is a great abundance of excellent ore. Sulphuret of copper is found in the Monocacy valley, but, although very easy of reduction, it is used only in making sulphate of copper, the blue vitriol of commerce. Red and yellow ochre and chrome ores, alum-earth and copperas ores, are found in the eastern part of the State; porcelain-earth occurs in the northeastern corner, and there are extensive clay deposits, which furnish a valuable material for the manufactory of stone-ware, common pottery, glazed-ware, and fire-bricks. Epsom salt, shell marl, lime, manganese, and valuable marbles, also occur.

Indian-corn and wheat are the agricultural staples of the Eastern Shore, but the latter is under the present system of cultivation so precarious a resource, that the former may be said to be the principal produce. The same articles, with tobacco, are the staples of the western section, and on the newly-cleared lands of the mountainous district, where the cultivation of tobacco has lately been commenced, the bright-leaf staple is produced. The fine tracts in this district which are called the Glades, are broad, moist valleys, forming productive meadows and luxuriant pastures. Of 34,105 hhds. of tobacco inspected in Baltimore in 1835, 24,930 hhds. were the produce of the State: the flour inspected in the same city amounted to 516,600 bbls. and 21,333 half-barrels, with 1405 hhds. and 4301 barrels of Indian-corn meal, and 4807 barrels of rye flour. The manufactures of the State are considerable, including cotton and woollen goods, iron-ware, sheet copper, pottery and stone ware, paper, glass, chemicals, &c.; our information in respect to the amount and value o their products is extremely meagre. A committee of the New York convention states the number of cotton-mills in 1831 to have been 23, with upwards of 47,000 spindles, and 1002 looms, producing annually 1,100,000 pounds of yarn and 7,649,000 yards of cloth, and consuming 3,008,000 pounds of cotton. Another committee of the same convention gives returns from six furnaces producing 3163 tons of pig-iron, and 1259 tons of castings; but from the report on the geological survey of the State, we gather that 5800 tons of iron of the value of 400,000 dollars, were made in the eastern counties of the Western Shore alone, in 1834. From the same report it appears that 1,100,000 pounds of Epsom salt of the value of 45,000 dollars; chrome yellow of the value of 50,000 dollars; 50,000 pounds of blue vitriol; red and yellow ochre of the value of 2000 dollars; copperas of the value of 6000 dollars; 75,000 dollars worth of alum, and 50,000 dollars worth of fire-brick are annually produced in the State, and that the pottery, stone-ware, and glazed-ware of Maryland are largely exported.

The herring and shad fisheries are actively carried on, and yield valuable returns, constituting an important article of trade, as well as of home consumption; there were inspected in Baltimore, in 1835, 40,711 barrels and 908 half-barrels of herrings, 5505 barrels and 287 half-barrels of shad, and 15,917 barrels and 1662 half-barrels of mackerel. The commerce of Maryland is extensive, and her ports serve as the outlets of large tracts of productive country in Virginia, Pennsylvania, and the Western States, whose consumption is also in part supplied through the same channels. Her imports from foreign countries amounted, in 1834, to 4,647,483 dollars; her exports to 2,143,899 dollars, and her coasting trade is also valuable. The shipping belonging to the State amounted, in the beginning of that year, to 87,442 tons. The canals and rail-roads of Maryland are on a gigantic scale; the Chesapeake and Ohio Canal is to extend from Georgetown to Pittsburg, 340 miles; it is already completed to above Williamsport, 105 miles, and is in progress to Cumberland, 185 miles, an appropriation of 3,000,000 dollars having recently been made by the State, to enable the Company to finish this section of the work. The canal is generally from 60 to 70 feet wide, but in some places is contracted to 50, and in others expanded to 100 or 150; the depth is 6 feet; rise to Williamsport, 353 feet, overcome by 44 locks, 100 feet long, by 15 wide; there are, in this distance, 119 culverts, 5 aqueducts, above Georgetown, one of which is 516 feet in length, and one at that place, 1714 feet long; the culverts, aqueducts, and locks, are all built of solid stone masonry, laid in hydraulic lime; the cost of this work, thus far, is estimated to have been about 4,100,000 dollars. The Legislature of the State has also appropriated 1,000,000 for the construction of branches to Baltimore and Annapolis. The Susquehanna Canal, extending from Columbia to Port Deposit, is in progress. The Baltimore and Ohio Rail-road is completed to Harper's Ferry, 80 miles, where it is connected with the Winchester Rail-road; the work is now going on towards Cumberland, and an appropriation of 3,000,000 dollars has been made by the State to aid in its completion. A branch has been constructed to Washington, a distance of 32 miles, from a point about 12 miles from Baltimore. Number of passengers conveyed on the road in 1835, 97,758; tons of merchandise, 72,634; receipts, 263,368 dollars; expenses, 156,204 dollars; there are 1140 burden cars, and 44 passenger cars, with seven locomotive engines, employed on the road. It has been ascertained by surveys, to be practicable to carry the rail-road over the Alleghany Mountains, at an elevation of 2278 feet, without having recourse to the use of inclined planes. The Baltimore and Philadelphia Rail-road is chiefly in this State; the whole distance is 92 miles; from Baltimore, by Havre de Grace, to the Delaware State line, 53 miles; the Susquehanna will be crossed by a steam-ferry-boat; the work is nearly completed. The Baltimore and Susquehanna Rail-road extends from Baltimore, by York, to the Susquehanna, 75 miles, and is also approaching its completion. A rail-road from the northern part of the Eastern Shore to Pocomoke Bay, is about to be constructed, and the State has voted 1,000,000 dollars towards its execution.

Maryland was first settled by Roman Catholics. That sect being persecuted in England, Lord Baltimore, one of its members, formed a plan to remove to America. He visited and explored the country, and returned to England, where he died while making preparations for the emigration. His son obtained the grant of the territory designed for his father, and gave it the name of Maryland, in honour of Henrietta Maria, the Queen of Charles I. He appointed his brother, Leonard Calvert, governor of the colony, who set sail in 1633, with 200 settlers, principally Catholics. They purchased land of the Indians, and formed a settlement at St. Mary's, on the Potomac. The colony was increased by refugees from Virginia, and the other neighbouring territories, who were attracted by the toleration here given to all religions, and it began to flourish, but was soon disturbed by Indian wars and rebellions. The Roman Catholics were tolerant to other sects, but soon found themselves outnumbered, and became subject to the persecution which they had fled from at home. These troubles, how er, were allayed at the restoration of Charles II. in 1660. At the revolution of 1688, the charter of the colony was set aside, and the government assumed by the crown; but in 1716, the proprietor was restored to his rights. At the beginning of the American revolution, the authority fell into the hands of the people.

The Legislature consists of a Senate and House of Delegates, and is styled the General Assembly of Maryland. The Senate is composed of fifteen members, nine from the Western and six from the Eastern Shore, elected for the term of five years, by a college of electors chosen for that purpose. The House of Delegates is chosen annually by the people, every free white male citizen of the age of twenty-one years, who has resided within the State during the year preceding the election, enjoying the right of suffrage. The Governor and Executive Council are elected annually by the General Assembly; the judicial officers are appointed by the Governor and Council, and hold office during good behaviour. A law in favour of primary schools was passed in 1825, and it has been partially carried into effect in some of the counties. There is a free school fund of 50,000 dollars, belonging to different counties, and appropriated to the education of indigent children, and the proceeds of a small school fund belonging to the State, are also applied to the same object. The State also grants annually a sum of 5000 dollars to the University of Maryland, and a further sum, amounting in 1835 to 18,600 dollars, to other colleges, academies, and schools. The colleges are St. John's College, at Annapolis, St. Mary's at Baltimore, Mount St. Mary's at Emmittsburg, and Mount Hope, near Baltimore. The Academical and Medical Departments of the University of Maryland, at Baltimore, are in operation, and there is also another medical school, styled the Washington Medical College, in the same city. The Roman Catholics, Episcopalians, and Methodists, are the prevailing sects; and the Presbyterians, Baptists, German Reformed, and Friends, are pretty numerous. There are also some Universalists, Lutherans, Swedenborgians, Tunkers, and Mennonists.

Maryland is divided into nineteen counties, of which eight are on the Eastern, and eleven on the Western Shore. In 1820, the population of the Eastern Shore was 121,617; in 1830, it had sunk to 119,472; that of the Western Shore, on the other hand, had increased from 275,733, to 327,568. Of the whole population, amounting to 447,040, 155,932 were blacks. The number of slaves had lessened, from 111,502 in 1810, to 102,932 in 1830.

Counties.	Population.	County Towns.
Eastern Shore	119,472	
Caroline	9,070	Denton
Cecil	15,432	Elkton
Dorchester	16,686	Cambridge
Kent	10,501	Chestertown
Queen Anne's	14,397	Centreville
Somerset	20,166	Princess Anne
Talbot	12,947	Easton
Worcester	18,273	Snow Hill
Western Shore	327,568	
Alleghany	10,609	Cumberland
Anne Arundel	28,295	Annapolis
Baltimore	120,870	Baltimore
Calvert	8,900	Prince Fredericktown
Charles	17,769	Port Tobacco
Frederick	45,789	Frederick
Harford	16,319	Bellair
Montgomery	19,816	Rockville
Prince George's	20,474	Upper Marlboro
St. Mary's	13,459	Leonardtown
Washington	25,268	Hagerstown.

Population at Different Periods.

	Total.	Slaves.
1790	319,728	103,036
1800	341,548	105,635
1810	380,546	111,502
1820	407,350	107,398
1830	447,040	102,994.

The Eastern Shore enjoys great facilities for transportation, and is very healthful, yet the emigration from it has been so great as to diminish its population of late years. The principal town is Easton, with a population of 2000; Chestertown and Elkton are small villages, on Chester and Elk Rivers, with some trade. Oxford, on Third Haven Bay, below Easton, is one of the oldest towns in the State, and has a fine, capacious harbour; the shipping of the district amounts to 11,320 tons. Vienna, on the Nanticoke, 30 miles from its mouth, is the port of entry for that river; tonnage of the port, 14,769.

1129

Baltimore.

Baltimore (*fig.* 1129.), the principal city of the State, and, in point of population, the third in the Union, stands on an arm of Patapsco Bay, about 14 miles from the Chesapeake, and 200 from the sea, by the ship channel. The city is pleasantly situated, on slightly undulating ground, and some of the elevations in the vicinity command fine prospects; it is regularly laid out, and well built, the streets being generally spacious, and the houses neat and commodious. The harbour is capacious and safe, and consists of an inner basin, into which vessels of 200 tons can enter, and an outer harbour, at Fell's Point, accessible to the largest merchant-ships. The entrance is commanded and defended by Fort M'Henry. Baltimore possesses the trade of Maryland, of part of Western Virginia and Pennsylvania, and the Western States, and its inland communication has been extended and facilitated, by the construction of the Baltimore and Ohio Rail-road. Manufactures of cotton, woollen, paper, powder, alum, chrome yellow, pottery, &c., are also carried on in the city and neighbourhood, and Baltimore is the greatest flour market in the world; the annual inspections of flour amount to about 600,000 barrels. Its foreign trade has, however, somewhat declined; its shipping amounted, in 1833, to 50,108 tons. The Baltimore schooners are pronounced to be the perfection of naval architecture, and they are no less fitted for trade than for privateering, in which capacity they made a great figure during the last war. The number of banks, in 1834, was ten, with a capital of about 7,000,000 dollars. The public buildings are, 45 churches, two hospitals, a penitentiary, exchange, the college and university halls, &c. The Battle Monument, erected in memory of the successful defence of the city, when attacked by the British, in 1814, is an elegant marble obelisk, 35 feet high, on which are inscribed the names of those who fell in that gallant affair. The Washington Monument is the most splendid structure of the kind in the country; it is a Doric column of white marble, with a circular staircase inside, by which you ascend to the top; the column is 140 feet in height, and 20 feet in diameter at bottom; it stands upon a base 23 feet high, and is surmounted by a colossal statue of the Father of his Country. The Exchange is a large and handsome edifice, 366 feet by 140; the Roman Catholic Cathedral is, perhaps, the finest church in the country, and it contains some good paintings. The Public Fountains, which supply the city with water, are also ornamental constructions. The citizens of Baltimore are not more distinguished for their bold and persevering enterprise, than for hospitality and agreeable manners. In 1765, there were not more than fifty houses on the site of the city; in 1800, the population had increased to 23,971; in 1820, to 62,738; and in 1830, to 80,625. On the 13th of September, 1814, the British landed at North Point, and drove in the American advanced guards; but on the 14th, the fleet having unsuccessfully bombarded Fort M'Henry, the land forces were obliged to retreat to their ships.

The Patapsco is a small river, having a fall of nearly 800 feet in about 30 miles; it is therefore become important for its water-power, and its valley is the seat of numerous mills. The scenery is also remarkably wild and picturesque. The village of Ellicott's Mills, about ten miles from Baltimore, stretching for some distance along the river, contains numerous mills and manufacturing establishments. At Pikesville, further up the stream, there is an arsenal of the United States. The city of Annapolis, agreeably situated on the Severn, three miles from the Bay, is the capital of the State. It is regularly laid out, with the streets diverging from the State House and the Episcopal church. The State House is a handsome building, in which the Old Congress held some of their sessions, and the Senate Chamber, in which Washington resigned his commission, has been preserved unaltered; here is likewise the State library of 10,000 volumes. Annapolis is also the seat of St. John's College. The channel to the city is narrow and difficult. Population, 2623. The Western Shore terminates in Point Lookout, the northern headland at the mouth of the Potomac, and further up that river we come to Piney Point, a clear, open cape, projecting into the Potomac, here about eight miles wide, and much resorted to for bathing.

Returning to Annapolis, and proceeding westward, we find Bladensburg, six miles from Washington, and the scene of a disastrous affair during the late war. Further west is the fine Monocacy valley, equally remarkable for the beauty of its position, its rich agricultural resources, and its mineral wealth, and containing the city of Frederick. Frederick is the depôt of this rich district, and is, in point of wealth, elegance, and population, the second city in Maryland. A branch of the Baltimore and Ohio Rail-road terminates here. The population of this flourishing city is 7255. Crossing the Cotoctin Mountain, a detached ridge, which rises to the height of 1200 feet, we descend into the valley of that name, which contains the village of Middletown, and which, in the beauty of its position, and the value of its agricultural productions, rivals the valley of Frederick. Beyond the Blue Ridge, here called the South Mountain, is the great limestone valley, forming the prolongation of the Kittatinny valley of Pennsylvania. "The soil is not so deep as in the neighbouring valleys, but is very productive; and the basin, of which Hagerstown is the centre, between the North and South Mountains, with the smaller valleys beyond as far as Hancockstown, is among the most fertile portions of the State." Hagerstown is a well-built and flourishing town, containing the usual county buildings, several churches and academies, and a population of 3371 souls. Williamsport, at the mouth of the Conococheague, is a flourishing village, on the route of the Baltimore and Ohio Rail-road, and the Chesapeake and Ohio Canal.

"The portion of the State commencing at the northeast branch of the Potomac, exhibits a succession of abrupt hills, crowned by plateaux of variable extent, sloping gently towards the south. The soil of these table-lands is principally in an exhausted condition, the effects of a bad system of husbandry, and of continual washings. The best lands are the patches of alluvial soil in the beds of the branches, forming considerable valleys, and the alluvial flats on the Potomac, some of which are of considerable extent; these consist of sandy and clayey loams, and yield good crops of wheat, Indian corn, or tobacco." (*Geological Report.*) Cumberland, the principal town in the western part of the State, standing at the eastern terminus of the great National Road, has lately derived importance from its valuable coal mines, which will soon be rendered accessible by means of the Chesapeake and Ohio Canal. A fine canal basin has been constructed here, and measures have been taken to connect the coal mines with its waters. The Cumberland Road, as it is often called from its starting point, is a Macadamised road, crossing the great mountain chain of the United States in Maryland and Pennsylvania, and reaching the Ohio at Wheeling, Virginia, a distance of 125 miles; it passes through Union, Brownsville, and Washington. We have already given some account of the mineral productions of the western part of the State. "In reference to the agricultural resources of the coal districts," says the Geological Report before quoted, "which may be described as hilly, it is found that the soil upon them, being a mixture of a decomposed slate and limestone with sand, is generally very fertile, and yields abundant crops of grain, principally oats of a very superior quality. Within a few years the cultivation of the tobacco plant has been commenced, and in the newly cleared lands is produced the bright-leaf staple, which always commands a high price. The more mountainous districts above the level of the coal formation, present broad valleys, bearing every evidence of having formerly been beds of extensive lakes, now dried up or drained, the waters of which have left behind them deep deposits of clayey loam. These beautiful tracts of country have received the name of Glades. From their elevated position, and their constant moist condition, they form very productive meadows and the most luxuriant pastures."

SUBSECT. 3.—*Southern States.*

This term is applied in common usage to the States lying between the Potomac and the Sabine, and bordering on the Atlantic Ocean and the Gulf of Mexico, although it is not possible to draw any precise line of distinction between them and the conterminous States. Virginia, North Carolina, South Carolina, Georgia, Florida Territory, Alabama, Mississippi, and Louisiana, are then the component parts of this great section, which, extending from 25° to 40° 30′ N. lat., and from 75° to 94° 30′ W. lon., has an area of above 420,000 square miles, and a population of 3,744,000 souls.

The Appalachian Mountains, which range over the greater part of Virginia, only skirt the northwestern frontier of the States further south, and they disappear entirely in the northern part of Alabama. Almost the whole region, therefore, forms a part of the great Atlantic slope, and the greater proportion of it consists of a vast level unbroken by any considerable swells, and not much elevated above the surface of the sea; as it recedes from the coast, however, it begins gradually to rise into a more elevated, bolder, and more broken surface. A line drawn from Washington through Richmond, Raleigh, Columbia, Augusta, Tuscaloosa, and the northern part of Louisiana, may be considered as the western and northern boundary of the Low Country, beyond which the surface becomes hilly, and gradually passes into the mountainous. Every part of the coast is low and flat, without a single lofty headland to warn the mariner of his approach to land, and it sends out numerous shoals, which often render it inaccessible to larger vessels. A chain of low sand-islands extends along almost the whole coast-line, affording an inland navigation for small vessels, through the narrow and shallow sounds, which lie between them and the main land. Chesapeake Bay seems to be the southern limit of deep water.

Flowing for a considerable part of their course through a level country, and disemboguing into a sea of shoals, most of the rivers of this section south of the bay above named, are characterised by sluggish currents and sand-bars at their mouths. Although there is no stream of the Southern States that can be ranked in point of extent with the great rivers of the country, yet there are several which, from the length of their course and the volume of waters, would in other countries be looked upon as large rivers, and there is a large number which furnish useful navigable channels. With the exception of the few that pour their waters into the Ohio, all of the rivers east of the Suwannee flow southeasterly into the Atlantic, and beyond that point they descend southwards into the Gulf of Mexico.

The inhabitants of the Southern States are almost entirely occupied with agriculture; indeed this is so much the case, that the commerce is principally in the hands of foreigners and of their northern countrymen, from whom are also received most of the manufactured articles which are consumed. The great staples are cotton, rice, sugar, and tobacco; nearly the whole of the cotton crop of the United States is the produce of this section, and rice and sugar are confined to its southern portion; in the northern and mountainous parts more maize, wheat, and tobacco are raised; in some districts grazing is more attended to, and in Florida and Louisiana, as well as in some other parts, large herds of cattle and horses compose the wealth of the people. Gold is also confined almost exclusively to this region, and, with timber and naval stores, is to be added to the articles above enumerated in the list of exports. The commerce consists merely in the exportation of the raw produce, although sugar, molasses, tar, &c. might with propriety be considered as the product of manufacturing industry; and the importation of various articles of food, luxury, dress, furniture, agricultural implements, &c.

The population is chiefly of English descent, but in some places somewhat mixed. There are many descendants of the French and Spanish, particularly in Louisiana and Florida. In Louisiana, French is extensively spoken, and the laws are printed in that language as well as in English. The negroes, who form about two-fifths of the population, constitute a separate caste, and are mostly held in slavery. The Indians are still numerous, although the Choctaws have been recently removed, and the Creeks are now emigrating, to the Western Territory. The Cherokees, Chickasaws, and Seminoles yet remain.

The inhabitants are seldom collected together in villages and towns, like their northern countrymen, but live in a scattered manner over the country. This is owing in part to the prevalence of agricultural over commercial and mechanical occupations, but chiefly to the fact that the labour is done by slaves. Instead of small proprietors, cultivating their own little farms with their own hands, we here find extensive plantations, carried on under the direction of the owner or his agent, who merely manages the pecuniary matters, directs operations, and oversees the labourers. This state of things has a decided influence upon the manners and character of the people, yet there are so great individual differences that no general description will apply to the Virginian, the Carolinian, and the Louisianian. Hospitality and generosity are among the favourable traits of the southern character. The poorer class of whites enjoy less advantage in respect to education and religious instruction than those of the north, and are in general less industrious and frugal.

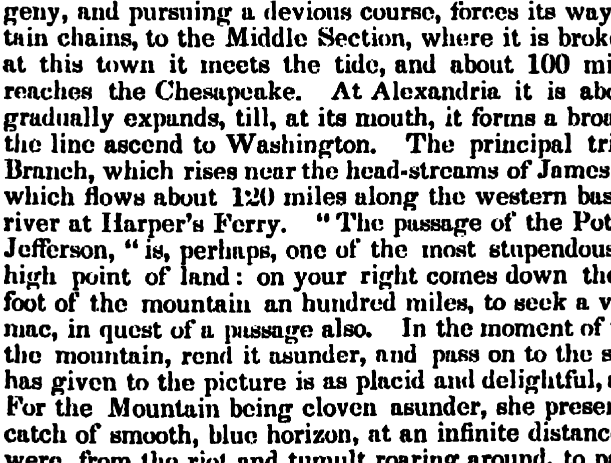
1. *Commonwealth of Virginia.*

The largest and most central State in the Union, perhaps the most varied in her productions, and the richest in natural resources, blessed with a most happy climate, abundantly supplied with noble channels of communication, exhibiting over her spacious bosom a pleasant interchange of the wildest and the most lovely scenes, Virginia seems to possess within herself the elements of an empire. Nor to the American heart are the historical associations connected with the Old Dominion, as she is fondly called by her children, of less interest: the first English colony planted in America, she gave birth to the Father of his Country, and his bones lie in her soil.

Virginia has the Atlantic Ocean and the Chesapeake Bay on the east, Maryland and Pennsylvania on the north, Ohio and Kentucky on the west, and Tennessee and North Carolina on the south. With the exception of the long tongue between Pennsylvania and Ohio, and the peninsular projection between the Chesapeake bay and the ocean, the State lies between 36° 30′ and 39° 43′ N. lat., and between 75° 40′ and 83° 32′ W. lon., having a breadth of about 200, and a length of 350 miles, with an area of 70,000 square miles. It is the only State, excepting Pennsylvania, that extends quite across the great Appalachian chains, and it is traversed from north to south by five or six well-defined mountain ranges and several detached ridges. Our account of the different chains is not as yet so precise as we could wish, but the geological survey now going on will throw full light upon this important geographical feature of the country. The State is often described as divided by the Blue Ridge into two great sections, Eastern Virginia and Western Virginia; but the constitution recognizes the division into four sections: the Tide-water Section, below the lower falls of the rivers, the Middle Section between those falls and the Blue Ridge, the Great Valley between the Blue Ridge and the Alleghany, and the Trans-Alleghanian Section west of the mountain ranges. 1. The first mountains are found in the Middle Section, which is traversed by a low ridge bearing the local names of Southwest, Carter's, White-oak Mountain, &c., and running nearly parallel with the Blue Ridge, at the distance of about 25 or 30 miles. 2. The Blue Ridge, although pierced by the Potomac, James, and Staunton rivers, constitutes a well-marked and continuous chain of 260 miles in length. In general it forms rounded, swelling masses, but the Peaks of Otter shoot up in projecting summits, to the height of 4260 feet. 3. The Kittatinny, or Blue Mountain, enters the State further west, under the name of the Great North Mountain, and forming the centre of the great plateau or table-land of Virginia, is continued under various local names, until it takes the name of Iron Mountain and enters North Carolina. It is pierced by the Potomac and the James rivers, running eastwardly, and by the New River running westwardly; recent observations make White Top, in the Iron Mountains, about 6000 feet high. 4. West of this great ridge lie several detached masses, which further examinations will, perhaps, prove to form continuous chains, bearing the local names of Sideling Hill, Branch Mountain, Jackson's Mountain, Potts' Mountain, &c. 5. Still further west we come to the Alleghany chain, of which Clinch Mountain seems to be a prolongation: it is a common error to represent this chain as the water-shed between the Atlantic and the Ohio, whereas it is broken through by the New River in this State, as it is by other streams further north. Powell's Mountain appears to be an outlier of this chain, and reaches the height of about 4500 feet. 6. Westward of the Alleghany there is a general slope towards the west; but several other considerable chains traverse this section; the principal is the Laurel Mountain, of which the Green Brier, Great Flat Top, and Cumberland Mountains appear to form a part.

Every portion of Virginia is penetrated by fine rivers and streams, useful either as channels of navigation, or for mechanical purposes. With few exceptions, the Ohio and the Chesapeake Bay are the recipients of the rivers of the State; those of the eastern part flow with an almost uniform southeasterly course into the Bay, carrying with them also all the waters of the Great Valley, excepting only the New River, and the Holston in its extreme southern part. The Potomac rises in the Great Back Bone, but a few miles from the Youghiogeny, and pursuing a devious course, forces its way through the several intermediate mountain chains, to the Middle Section, where it is broken by falls, nine miles above Georgetown; at this town it meets the tide, and about 100 miles below, after a course of 360 miles, it reaches the Chesapeake. At Alexandria it is about one mile and a half in width, and it gradually expands, till, at its mouth, it forms a broad estuary 10 miles in breadth. Ships of the line ascend to Washington. The principal tributaries of the Potomac are the South Branch, which rises near the head-streams of James River, the Cacapon, and the Shenandoah, which flows about 120 miles along the western base of the Blue Ridge, and joins the main river at Harper's Ferry. "The passage of the Potomac through the Blue Ridge," says Mr. Jefferson, "is, perhaps, one of the most stupendous scenes in nature. You stand on a very high point of land: on your right comes down the Shenandoah, having ranged along the foot of the mountain an hundred miles, to seek a vent. On your left approaches the Potomac, in quest of a passage also. In the moment of their junction, they rush together against the mountain, rend it asunder, and pass on to the sea. The distant finishing which nature has given to the picture is as placid and delightful, as the foreground is wild and tremendous. For the Mountain being cloven asunder, she presents to your eye through the cleft, a small catch of smooth, blue horizon, at an infinite distance in the plain-country, inviting you, as it were, from the riot and tumult roaring around, to pass through the breach and participate in the calm below. Here the eye ultimately composes itself, and that way, too, the road happens actually to lead. You cross the Potomac above the junction, pass along its side through the base of the Mountain, for three miles its terrible precipices hanging in fragments over you, and within about 20 miles reach Frederick and the fine country around that." The great Falls (*fig.* 1130.) form one of the grandest scenes which the United States present. The perpendicular descent is seventy-six feet, but the rapids extend for fifteen miles up the river. A stupendous projecting rock, covered with cedar, affords a spot from which the romantic scenery and the impetuous dashing of the waters may be contemplated. At the close of winter, vast masses of ice, rolling over these rocks with a hideous noise, present a scene truly sublime.

1130



Great Falls on the Potomac.

The Rappahannock, rising in the Blue Ridge, receives the Rapid Ann from the same Ridge, and falling over the primary ledge at Fredericksburg, 100 miles from its mouth, there reaches the tide-water. Vessels of 140 tons ascend to Fredericksburg. York River, formed by the junction of the Pamunky and Mattapony, partakes rather of the character of a long narrow bay than of a river; to the junction of those streams, 40 miles from the Bay, it is from two to four miles wide; large vessels come up to Yorktown, and smaller vessels some distance above the junction. James River, the principal river of Virginia, rises in the Alleghany Mountains in several head streams, of which Jackson's River must be considered the main branch; after having received the Cow Pasture and Calf Pasture Rivers from the north, it forces its way through the Blue Ridge, and falling over numerous pitches meets the tide, 100 miles from its mouth, at Richmond, which is accessible to vessels of 140 tons. Its only considerable tributary below the Blue Ridge is the Appomattox, which carries seven feet of water to Petersburg, 12 miles. The Meherrin and Nottoway are small rivers, which unite in North Carolina to form the Chowan. The Roanoke is formed in Virginia by the junction of the Staunton and the Dan, two rapid mountain-streams, which rise, the former in the North Mountain, the latter in the Blue Ridge; but the larger part of its course is in North Carolina.

The rivers of the western section all reach the Ohio. The Monongahela, one of the main constituents of the Ohio, is formed in Virginia, by the junction of the West Branch and Tygart's Valley River, and beyond the Pennsylvania line it receives the Cheat River, which descends from Greenbrier Mountain; this stream is navigable by boats for some distance, but the other branches are broken by falls. Little Kanawha rises in the same district with the West Branch of the Monongahela, but its navigation is obstructed by falls. The Great Kanawha, the principal river of western Virginia, rises in the Blue Ridge in North Carolina, and bears the name of the New River until it unites with Gauley River. The Greenbrier, above the latter, and Elk and Coal Rivers below it, are its chief tributaries; steam-boats go up to Charleston, 60 miles. The Guyandotte and Big Sandy enter the Ohio below the Kanawha. The Holston and Clinch Rivers pass into Tennessee.

The mineral wealth of Virginia is boundless; gold, copper, lead, iron, coal, salt, limestone, marls, gypsum, magnesian, copperas, and alum earths, thermal, chalybeate, and sulphuretted springs, excellent marbles, granites, soap-stones, and sand-stones, &c., are among the treasures as yet for the most part lying idle in the bowels of the earth. Mining industry has, however, recently taken a start, and will doubtless soon afford profitable employment to many of the inhabitants. At the junction of the middle and tide-water section, we find the first coal-field, which extends from the Pamunky by Richmond to the Appomattox, a distance of about 35 miles, with a breadth of from one or two to eight miles. The coal is bituminous, in seams of enormous thickness, being sometimes 30, 40, and even 60 feet thick, and of excellent quality. Traces of coal have also been found on both sides of the Upper Appomattox. The coal of the Richmond basin is now largely mined, and sent off in considerable quantities. Anthracite of great purity is found in the valley from the Potomac to the James River, south of which it contains a considerable portion of bitumen, but less than that of the ordinary bituminous coal, and it is, therefore, called by Prof. W. B. Rogers, semibituminous coal. Beyond the Alleghany, there are some of the most extensive and valuable deposits of bituminous coal in the United States, which derive additional value from their being associated with not less important beds of iron and rich salines. "At Wheeling, on the Ohio, and for 14 miles down the river, the bank presents an uninterrupted bed of highly bituminous coal, upwards of 16 feet thick;" the Wheeling basin extends about 30 miles up and down the river, in Ohio and Virginia. Another vast field stretches from above Clarksburg, on the Monongahela, to Pittsburg, and far beyond, to the northeast, in Pennsylvania; in some places the seams in this field are from 10 to 12 feet thick. There is also a valuable coal-field on the head waters of the North Branch of the Potomac. "A simple enumeration of the strata here exposed, will furnish an illustration of the resources of this corner of the State, well calculated to inspire astonishment and exultation. Upon a stratum of valuable iron ore, not less than fifteen feet in thickness, there rests a bed of sand-stone, upon which reposes a coal seam, three feet thick; above this another bed of sand-stone, then a two feet vein of coal; next sand-stone, then another coal seam of four feet; again a stratum of sand-stone, and over it a seven feet vein of coal; over this a heavy bed of iron ore, and crowning the series, an enormous coal seam of from 15 to 20 feet in thickness." (*Prof. W. B. Rogers's Geological Reconnoissance.*) Thus we have five tiers of coal seams with an aggregate of from 30 to 35 feet. There are also coal seams, associated with salt springs, on the Little Kanawha, and springs of petroleum or rock oil occur in the same tract. On the Great Kanawha, is a very rich and extensive coal-field; "on the Coal, Gauley, and other rivers in this portion of the west, the beds of this mineral are frequently brought to view, and in fact no better general description can be presented of its extent, than that it is almost continuous with the vast beds of sand-stone, which spread in nearly horizontal planes over nearly the whole of this broad region."

Salt springs occur on the Holston, on the Sandy River, on the Monongahela at Morgantown, on the Great and Little Kanawha, on the New River, and on the Greenbrier; but the most important works are on the Great and Little Kanawha. On the Holston the salt-wells are from two to three hundred feet deep, and yield at the rate of one gallon of salt to 10 or 16 gallons of brine; the occasional presence of grains of salt in the brine is thought to indicate the existence of beds of rock-salt in this district. On the Great Kanawha, the wells are from 300 to 500 feet deep, and extend along the river on both of its banks for a distance of about twelve miles. The water is raised by steam-engines, and boiled in large cast-iron pans, about 25 feet long by six and a half wide, the furnace being from 80 to 100 feet in length. On being boiled the water turns red, and is drawn off into the brine-troughs to cool and settle; it is then returned to the 'grainers' in which it is boiled down into salt, and then lifted out upon a platform, for the purpose of draining off the muriate of lime or bitter water. The brine of the Kanawha wells contains very little gypsum or sulphate of lime, and the process of obtaining pure crystalline salt is, therefore, attended with fewer difficulties than usual; the manufacture of the alum-salt, as the coarse salt thus made is called, has but lately been introduced here; the brine, in this case, is carried into large, shallow, wooden vats, and kept at a moderate temperature by steam, instead of being boiled. The quantity of salt at present made here is about 3,000,000 bushels annually, 70 gallons of brine yielding on an average a bushel of salt.

Of the metallic products of Virginia, gold is at present the most important. It is found on both sides of the North and Rapid Ann Rivers, of the North and South Anna near their heads, of the Rivanna in the lower part of its course, and of the James River above and below the mouth of the Rivanna. Some of the principal mines are the United States, Green, Jackson's, and Dixon's, in Spotsylvania; the Rappahannock and Rattlesnake, in Stafford; the Liberty and Union, in Fauquier; the Culpeper and Millbank, in Culpeper; the Virginia, Vaucluse, Millville and Payne's, in Orange; Tinder's, in Louisa; the Goochland, in Goochland; Booker's and Morton's in Buckingham, and there are also some workings in Fluvanna. Scientific processes of mining and separating the metal have been only very recently and partially introduced, and we are destitute of any precise data as to the amount of gold produced. Iron will, perhaps, at some future period prove a more precious deposit; but at present, although the ore is abundant, it is little worked; the bog-ore occurs in the lower part of the State, and the hematitic and magnetic ores in the middle section, where the works at New Canton produce from 30 to 40 tons of pig-iron per week. Hematitic ore is also found in the Valley, and is wrought in several places; and rich ores of different kinds are worked to some extent in the western section. Some copper is made in the Blue Ridge, and the valuable lead ores, sulphuret and carbonate, of the southwestern part of the Valley, are also wrought.

The principal agricultural productions of Eastern Virginia are Indian corn, wheat, and tobacco, and in the southeastern part some cotton is raised. The cotton crop is about 30,000 bales. The processes of cultivation have generally been of the worst kind, and a considerable portion of the soil has been completely exhausted by a scourging succession of crops without manure. Of late years, however, the cultivators have been driven by necessity to adopt a better routine; better implements and processes have been employed, and the use of gypsum or marl has become general The state of cultivation is superior in the Valley, and pretty nearly the same crops are raised; the growth of tobacco has of late been much extended in this section. The western section is chiefly devoted to grazing. The manufactures of the State are inconsiderable, but increasing. The exports of Virginia amounted in 1834 to 5,469,240 dollars; the imports to 837,325 dollars; but a great part of her foreign trade passes through the ports of other States, and its actual value cannot, therefore, be ascertained.

The State has a fund for internal improvement amounting to nearly 3,000,000 dollars, the income of which, exceeding 280,000 dollars, is applied, under the direction of a Board of Public Works, to aid in useful undertakings for facilitating the intercommunication between different parts of the State. The Dismal Swamp Canal unites Deep Creek with Joyce's Creek, and thus connects Chesapeake Bay with Albemarle Sound; it is 6½ feet deep, 40 wide, and 22½ miles long. Short canals have been constructed round the falls of the Appomattox, Dan, Shenandoah, and Rappahannock. But the greatest work undertaken in this State is the James and Kanawha Communication, which comprises canals and dams for the improvement of the James River, above Richmond, a canal connecting its head waters with the New River, and the improvement of the navigation of that river and the Kanawha to Charleston. The portion of the work between Richmond and Lynchburg is in an advanced state, and the continuation above that point is also in progress. Several important rail-roads have been constructed. The Petersburg and Roanoke rail-road extends from Petersburg to Blakely on the Roanoke, 60 miles. A continuation of this work is now in progress to Richmond, 22 miles. The Richmond and Potomac rail-road, from Richmond through Fredericksburg to the Potomac, 75 miles, also in progress, will complete the connexion between the Potomac and Roanoke. The Winchester rail-road extends from Winchester to Harper's Ferry, 30 miles, and is there connected with the Baltimore and Ohio rail-road. The Portsmouth and Roanoke rail-road extends from Portsmouth, opposite Norfolk, to Weldon, on the Roanoke, 77 miles.

The Literary Fund belonging to the State amounted, in 1833, to 1,551,857 dollars, and the revenue from the same to 78,340 dollars. In 1817, a permanent appropriation was made of 45,000 dollars a year for the instruction of poor children, to be distributed among the several counties and towns in proportion to their white population. In order to extend the benefits of this system to all classes, the school commissioners of any county are authorised to lay off the county into school districts, and, whenever any district shall have raised three-fifths of the sum necessary to build a school-house, to contribute the remaining two-fifths; and they are further empowered to pay a sum not exceeding 100 dollars towards a teacher's salary, provided the inhabitants of the district will supply an equal sum towards the same object; and every child in the district is to be gratuitously taught in such school. Under this system, it appears at the close of 1833 there were in the primary and district schools in 100 counties 17,081 poor children. There are also numerous grammar schools and academies in the State, and in many families the children are instructed by domestic tutors. The college of William and Mary, at Williamsburg, is the oldest in the United States after Harvard College; it was chartered in 1691, and though at one time in a declining state, is now a highly respectable institution. There is a law-school connected with it. The University of Virginia established at Charlottesville is, however, the most important educational institution in the State; it consists of nine schools, namely of Ancient Languages, Modern Languages, Mathematics, Natural Philosophy, Chemistry and Materia Medica, Medicine, Anatomy and Surgery, Moral Philosophy, and Law; and each student attends only to such schools as he chooses. The University went into operation in 1825, and it receives 15,000 dollars a year from the State; the library consists of 10,500 volumes. Washington College at Lexington, Hampden-Sidney College in Prince Edward County, and Randolph-Macon College in Mecklenburg, are respectable institutions. The theological schools are an Episcopal Seminary in Fairfax County, the Union Seminary founded by the Presbyterians in Prince Edward County, and the Virginia Baptist Seminary near Richmond. The predominant religious sects are Baptists, Methodists, Presbyterians, and Episcopalians. The Lutherrans and Reformed Baptists are also numerous, and there are some Roman Catholics, Friends, and Tunkers.

Attempts were made by the English to form settlements on this part of the coast of North America during the reign of Elizabeth, and the name of Virginia was applied to the whole southern part of the United States, in honour of the Virgin Queen. The first permanent colony was established at a later period, by the London Company. On the 13th of May, 1607, a little factory, called Jamestown, was set up near the mouth of a large river, which also received the name of King James. Notwithstanding the sufferings of the first settlers from famine and Indian hostilities, the colony soon began to thrive, and in 1619 the first representative assembly in North America was held at Jamestown. In 1624 the charter of the London Company was broken, and the King took the government of the colony into his own hands; Virginia continued to be a crown colony until the Revolution. She participated largely in the calamities of the French wars, and was among the foremost in taking a decided stand in the dispute with the mother country. In the war which followed, she acted a conspicuous part, and some of the most important incidents of that great drama took place within her borders.

A constitution of government was framed in 1776, which in 1830 underwent some important changes. The Governor and Council of State are chosen for the term of three years by the General Assembly, the senior Counsellor being Lieutenant Governor. The judges are chosen by the same body, and hold office during good behaviour. The General Assembly consists of two houses; a Senate of 19 members from the counties, cities, towns, and boroughs east of the Blue Ridge, and 13 members from the counties west of the same, chosen for the term of four years; and a House of Delegates, chosen annually, and composed of 36 members from the counties, cities, towns, and boroughs lying upon tide-water; 42 from the counties east of the Blue Ridge and above tide-water; 25 from the counties between the Alleghany and the Blue Ridge; and 31 from those beyond the Alleghany Mountains. A small property qualification is required to confer the right of suffrage, and in all elections the votes are given viva voce.

The State is divided into 115 counties, comprising the two cities of Richmond and Wheeling, the borough of Norfolk, and the towns of Portsmouth, Williamsburg, Petersburg, Fredericksburg, Charlottesville, Lynchburg, Lexington, Fincastle, Urbanna, &c. Of the counties, 36 are in the Tide-water Section, 30 in the Middle, 17 in the Great Valley, and 32 in the Trans-Alleghany Section. It is to be observed, that the country drained by the New River, though physically belonging to the Valley, is politically connected with the Western Section, in the statements which follow in regard to population and divisions.

Tide-water Section.

Counties.	Population. Total.	Population. Slaves.	Counties.	Population. Total.	Population. Slaves.
Accomac	16,656	4,654	Middlesex	4,122	2,138
Caroline	17,760	10,741	Nansemond	11,784	4,943
Chesterfield	18,637	10,336	New Kent	6,458	3,530
Charles City	5,500	2,957	Northumberland	7,953	3,357
Essex	10,521	6,407	Northampton	8,641	3,734
Elizabeth City	5,053	2,218	Norfolk	24,806	5,741
Fairfax	9,204	4,001	Princess Anne	9,102	3,734
Greenesville	7,117	4,681	Prince George	8,367	4,598
Gloucester	10,608	5,691	Prince William	9,330	3,842
Hanover	16,253	9,278	Richmond	6,055	2,630
Henrico	28,797	12,279	Southampton	16,074	7,756
Isle of Wight	10,517	4,272	Spottsylvania	15,134	8,053
James City	3,838	1,983	Stafford	9,362	4,164
King and Queen	11,644	6,514	Surry	7,109	3,376
King William	9,812	6,310	Sussex	12,720	7,736
King George	6,397	3,635	Warwick	1,570	910
Lancaster	4,801	2,632	Westmoreland	8,396	3,839
Mathews	7,664	3,481	York	5,354	2,598

Middle Section.

Albemarle	22,618	11,679	Henry	7,100	2,868
Amelia	11,036	7,523	Halifax	28,034	14,528
Amherst	12,071	5,925	Loudon	21,939	5,363
Bedford	20,246	8,782	Louisa	16,151	9,382
Buckingham	18,351	10,929	Lunenburg	11,957	7,233
Brunswick	15,767	9,758	Madison	9,236	4,876
Campbell	20,350	9,496	Mecklenburg	20,477	11,117
Charlotte	15,252	9,433	Nelson	11,254	5,946
Cumberland	11,690	7,309	Nottoway	10,130	6,942
Culpeper	24,027	11,417	Orange	14,636	7,983
Dinwiddie	21,901	10,356	Patrick	7,395	1,782
Fauquier	26,086	12,523	Pittsylvania	26,034	10,999
Fluvanna	8,221	3,795	Powhatan	8,517	5,472
Franklin	14,911	4,988	Prince Edward	14,107	8,593
Goochland	10,369	5,716	Rappahannock	formed in 1831	

Great Valley Section.

Augusta	19,926	4,265	Jefferson	12,927	3,999
Alleghany	2,816	571	Morgan	2,694	153
Bath	4,002	1,140	Page	formed in 1831	
Berkely	10,518	1,919	Pendleton	6,271	496
Botetourt	16,354	4,170	Rockingham	20,683	2,321
Clarke	formed in 1836		Rockbridge	14,244	3,398
Frederick	26,046	18,626	Shenandoah	19,750	2,423
Hampshire	11,279	1,330	Warren	formed in 1836	
Hardy	6,798	1,167			

Western, or Trans-Alleghany Section.

Brooke	7,041	228	Montgomery	12,306	2,026
Braxton	formed in 1836		Monongalia	14,056	362
Cabell	5,884	561	Monroe	7,798	682
Fayette	formed in 1831		Nicholas	3,346	.21
Floyd	formed in 1831		Ohio	15,584	360
Giles	5,274	465	Pocahontas	2,542	227
Grayson	7,675	462	Preston	5,144	129
Greenbrier	9,006	1,152	Randolph	5,000	259
Harrison	14,722	771	Russell	6,714	679
Jackson	formed in 1831		Scott	5,724	330
Kanhawa	9,326	1,717	Smyth	formed in 1831	
Lee	6,461	612	Tazewell	5,749	820
Lewis	6,241	162	Tyler	4,104	108
Logan	3,680	163	Washington	15,614	2,568
Marshall	formed in 1835		Wood	6,429	877
Mason	6,534	713	Wythe	12,163	2,094.

The total population of Virginia amounted, by the census of 1830, to 1,211,405, of which number 694,300 were whites, 469,757 slaves, and the remainder free blacks. This population is, however, unequally distributed over the different sections of the State, and the slave portion of it is still more unequally divided, as appears by the following statemen

	Square Miles.	Free.	Slaves.	Total.
Eastern Virginia (East of the Blue Ridge)..	27,200	416,660	416,320	832,980
Western Virginia......................	42,800	324,988	53 437	378,425.

Population at Different Periods.

	Total.	Slaves.
1790 - - - - - - -	748,308 - - - - - - -	298,427
1800 - - - - - - -	880,200 - - - - - - -	345,296
1810 - - - - - - -	974,622 - - - - - - -	392,518
1820 - - - - - - -	1,065,379 - - - - - - -	425,153
1830 - - - - - - -	1,211,405 - - - - - - -	469,757.

In our local descriptions we shall conform to the divisions above traced out, beginning with the eastern or Tide-water Section. This section consists of an almost level tract, in its eastern part but little elevated above the surface of the sea, and in its western portion rarely attaining a height of more than 50 or 60 feet. The general level is, however, broken by the courses of the rivers, forming innumerable ravines, depressed to the tide level. The ridge lands, which separate these ravines, are generally very poor, for the most part sandy, sometimes clayey, and remain chiefly under the native growth, no part of them having paid the expense of clearing and cultivating. The slopes or sides of the ravines present a somewhat higher degree of productiveness, but they are still far from being fertile; they are easily exhausted, and are liable to suffer from washings; much of this land has been cleared; it is generally too sandy for wheat, and its best crop is from 20 to 25 bushels of maize. The only rich and durable soils are small patches of river bottom and upland margin, which do not form more than one-tenth of the whole country below the falls of the rivers, and much even of this small proportion has been exhausted by injudicious cropping.

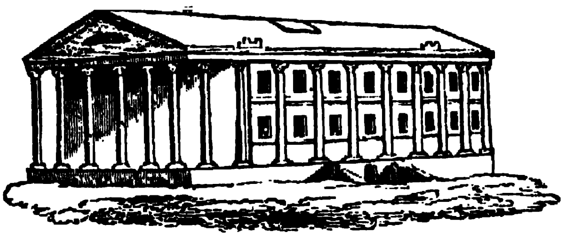
It is from this section that the traffic in slaves is chiefly carried on, and as some misapprehension seems to prevail on this subject, we give here the following remarks of a judicious writer, whose situation enables him to speak with authority. "The cultivators of Eastern Virginia derive a portion of their income from a source quite distinct from their tillage—the breeding and selling of slaves. It is not meant to convey the idea, that any person undertakes as a regular business the breeding of slaves, with a view to their sale, but the result is the same. With plenty of wholesome food and under mild treatment, they have every inducement to increase rapidly, without any prudential moral or physical check. A gang of slaves on a farm will often increase to four times their original number in 30 or 40 years. Few farms are able to support this increasing expense, and furnish the necessary supplies to the proprietor; whence many owners of large estates in lands and negroes are too poor to enjoy the comforts of wealth, or to encounter the expenses necessary to improve their unprofitable farming. A man so situated may be said to be a slave of his own slaves. The income of few persons increases as fast as their slaves, and the consequence must be that some of them will be sold that the others may be supported. The sale of slaves is always a severe trial to their owner. Obstacles are opposed to it, not only by sentiments of humanity and of regard for those who have passed their lives in his service, but every feeling of false shame comes to aid; and such sales are generally postponed until compelled by creditors, and are carried into effect by the sheriff, or by the administrator of the debtor. The surplus slaves must be sent out of the country which is not able to feed them, and these causes continue to supply the immense numbers that are annually carried away from Lower Virginia, without even producing the political benefit of lessening the actual number remaining." (*Ruffin, on Calcareous Manures.*)

The principal town in this section south of James River, is the borough of Norfolk, which is situated on the Elizabeth River, eight miles from Hampton Roads. Its harbour is deep and capacious, easy of access, and perfectly secure; the Road, an expansion of James River just above its mouth, affords the finest anchorage in the world, and is capable of containing its united navies. The entrance, between Old Point Comfort and a sand-bar called the Rip Raps, is rather more than a mile in width, and is defended by Fort Monroe and Fort Calhoun. Fort Calhoun, a casemated battery on the Rip Rap shoals, is not yet completed, but a foundation for the walls has been raised above the water, which is here from 18 to 22 feet deep, by throwing in large quantities of stone; and an immense weight of stone has been for several years deposited upon this artificial basis, for the purpose of causing it to settle before the walls of the castle are erected; this work will mount 232 guns. Fort Monroe covers 63 acres, and will mount 412 pieces. The favourable situation of Norfolk, in regard to the sea, and its connexion with the interior by means of the Dismal Swamp Canal and the Portsmouth and Roanoke Rail-road, have made it the chief commercial depôt of Virginia, and, in 1833, 21,893 tons of shipping belonged to the port. The town is built on low ground, and the neighbourhood is marshy; the principal streets are well paved and clean, but the others are less commodious and more irregular. The buildings are not distinguished for elegance, but some improvements have been made of late years in this respect. There are eight churches, a marine hospital, a theatre, lyceum, &c., and a population of 9816. At Gosport, in Portsmouth, on the opposite side of the river, is one of the most important navy-yards of the United States, containing a magnificent dry-dock, of hewn granite, constructed at a cost of 974,356 dollars. Population of Portsmouth, 2000. Suffolk is a thriving little town to the southwest, with 1200 inhabitants; it stands on the Nansemond River, and is accessible to vessels of 100 tons.

Petersburg, on the right bank of the Appomattox River, is a handsome and flourishing town, with 8322 inhabitants, combining an active trade in cotton, flour, and tobacco, with manufacturing industry. Vessels drawing seven feet of water come up to the town, but large ships unload at City Point, at the mouth of the river. The falls of the Appomattox furnish ample water-power, and there are here three cotton-mills with 6000 spindles, producing annually 360,000 pounds of yarn, and a considerable quantity of Virginia cloth, six merchant flour-mills, a brass and iron foundery, tanneries, cotton-seed oil mills, &c.

Richmond, the capital of the State, and its principal city, stands on several eminences, which command fine views of the surrounding country, and give to the city an air of singular beauty. The western division occupies a high plain called Shockoe Hill, overlooking the lower town, and containing a beautiful square of about ten acres, which is adorned with fine shade trees, and laid out in gravelled walks; here, in a commanding situation, stands the Capitol or State House (*fig.* 1131.), one of the most elegant structures in the United States, being an Ionic temple on the model of the *Maison-Carrée* of Nismes, and containing a statue of Washington by Houdon; and contiguous to it is the City Hall, a neat edifice of the Doric order. The other public buildings are the Armoury, Penitentiary, 16 Churches, a Theatre, &c. The city is supplied with pure water from three reservoirs, each containing 1,000,000 gallons, and filled by two pumps, which raise at the rate of 800,000 gallons in the 24 hours. Richmond is 110 miles from the mouth of the river, which carries 15 feet of water to within a few miles of the city, and affords boat navigation for 220 miles above the falls. These advantages enable it to carry on an extensive trade both inland and by sea; the annual value of the exports being about 3,000,000 dollars, in addition to a valuable coasting trade. Large quantities of wheat, flour, tobacco, &c., are brought down by the James River Canal, the quantity of these and some other articles having been, in 1833, 15,000 hogsheads of leaf and 2,230,900 pounds of manufactured tobacco, 133,000 bushels of wheat, 152,000 barrels of flour, 1374 tons of iron, and 23,000 tons of coal. The falls of the river immediately above the city afford an unlimited water-power, which is largely applied to manufacturing purposes; there are here and in the village of Manchester opposite to Richmond, 4 large flour-mills with 52 run of stones, grinding annually about 700,000 bushels of wheat, 3 cotton-mills, tobacco manufactories, a cannon foundery, 2 rolling and slitting mills, paper-mills, &c. The population in 1830 was 16,060; at present, including that of Manchester, which is connected with it by a bridge, it exceeds 20,000. A rail-road extends from Manchester to the coal mines, on the same side of the river, 13 miles, which yield at present about 50,000 tons of coal annually. Hanover Court House, 20 miles north of Richmond, is celebrated as the arena of Patrick Henry's displays of stormy eloquence.

1131



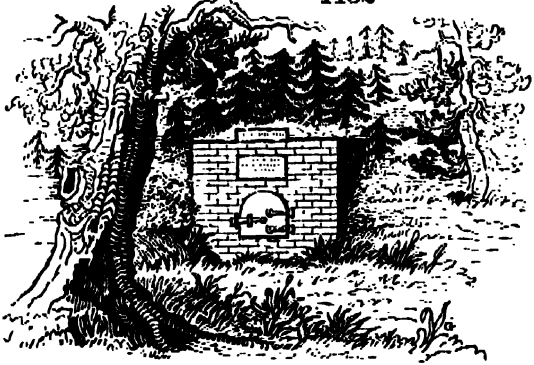
Capitol, Richmond, Virginia.

Proceeding down the river we pass the site of Jamestown, interesting as the first permanent English settlement in North America, but now a deserted spot, exhibiting hardly a trace of the old town. Hampton, at the mouth of the James, is a little village of 1120 inhabitants, noted as the residence of the pilots for the river. A few miles above the mouth of York River is Yorktown, an inconsiderable village, memorable in the war of the revolution for the surrender of the British army under Lord Cornwallis, (October 19, 1781,) to the combined American and French forces under General Washington. On the neck between the two rivers is Williamsburg, long the capital of the colony and State; it is now a declining town with 1500 inhabitants, but derives interest from its being the seat of William and Mary College. Here are also a State Lunatic Hospital, with accommodations for 84 patients; the Palace, or former residence of the colonial governor, on a fine square; the old Raleigh

Tavern, in which many of the most important ante-revolutionary measures were concerted, and the county buildings.

Fredericksburg is a flourishing town at the head of navigation on the Rappahannock River, which admits vessels of 140 tons up to the town. It is pleasantly situated in a rich and pretty valley at the foot of the falls, and is connected with the country above by means of a canal to Fox's Mill, 35 miles distant; its situation makes it the depôt of a well-cultivated tract, and its trade is considerable. Tobacco, wheat, flour, maize, gold, &c., are the principal articles of exportation. Population, 3308. Falmouth, Port Royal, Tappahannock, and Urbanna, are small villages on the Rappahannock. In Westmoreland County on the Potomac, is shown the spot where Washington was born; the house, which stood on Pope's creek, about half a mile from the river, on a plantation called Wakefield, is now in ruins. A simple stone, with the inscription, *Here, on the 11th of February, 1732, George Washington was born*, designates the consecrated spot. Further up the river, eight miles from Alexandria, is Mount Vernon, the seat and the tomb of that great and good man. The mansion house is a simple wooden building, two stories high, with a plain portico extending the whole length and commanding a view of the river; the tomb (*fig.* 1132.) is merely a walled excavation in the bank, with a brick front and closed by an iron door.

1132



Tomb of Washington.

The northern part of the Middle Section presents, in many respects, a favourable contrast to the portion of the State now described; it contains much excellent land, a considerable proportion of which is under good cultivation, and produces in abundance the three great staples of wheat, tobacco, and Indian-corn. The surface is generally finely varied by hills and valleys, the climate mild, agreeable, and healthy, and Mr. Jefferson pronounced the Southwest Mountain region, lying between the James and Rappahannock, to be the garden of North America. The towns of this section are few and small, as the trade centres in those which lie below the lower falls of the rivers. Leesburg is a neat and thriving town, with about 2000 inhabitants, situated in a productive and highly cultivated district. Fairfax, further south, is a flourishing village, and further on is Barboursville, in the vicinity of which is the seat and tomb of the late President Madison. Charlottesville, with about 1000 inhabitants, is pleasantly situated in a charming valley, and derives its interest from its being the seat of Virginia University. The halls of this highly respectable and valuable institution form a fine collection of buildings. Three miles from Charlottesville is Monticello, the seat of the late President Jefferson. The mansion occupies a lofty summit of the Southwest Mountain, 500 feet above the Rivanna, and commands a view of the Blue Ridge on the west, and of the low country as far as the eye can reach on the east. A simple granite obelisk over the grave of Jefferson bears this inscription, written by himself: *Thomas Jefferson, Author of the Declaration of Independence, and Founder of the University of Virginia.* Scottsville, on the James River, is a flourishing little town, which owes its prosperity to the James River Canal.

South of the James River there is also much productive land, yielding tobacco of excellent quality, but in many cases exhausted by injudicious cropping. Lynchburg, situated on the southern bank of the river, which is here bold and broken, is a neat and flourishing town, carrying on an active trade, and containing some manufactories. The water-power afforded by the river is partially employed in propelling a cotton-mill with 2500 spindles, and several saw and flour-mills, and there are here tanneries, tobacco-factories, smitheries, &c. The town is supplied with water from a reservoir containing 400,000 gallons, fed by a double forcing-pump, and placed at such an elevation as to throw a copious stream over the tops of the houses. Lynchburg is one of the largest tobacco markets in the world, from 10,000 to 16,000 hhds. having been inspected here annually during the last ten years. Population, 4630. Farmville, on the Appomattox, is likewise a great tobacco market, the amount annually inspected being about 4500 hhds. There are also several tobacco-factories, tanneries, &c. at Farmville; and a population of about 1000. Danville, on the Dan, which is navigable by boats some distance above, is a flourishing village, with 1000 inhabitants; its position commands some trade, and there are some manufactories here.

The Great Valley Section consists of an elevated table-land between the Blue Ridge and the Alleghany chain, from 1200 to 1500 feet above the sea. It is, however, traversed by several mountain chains, forming numerous subordinate valleys, at once fertile and picturesque, and constituting a region of singular wildness and beauty. Its rare combination of great agricultural resources with extraordinary mineral riches, must one day render it the seat of a populous and wealthy community. At the lower end of the valley stands the town of Harper's Ferry, celebrated for the majestic scenery in its vicinity, which has already been described. The town has a population of about 2000 inhabitants, and contains three churches, two academies, several large flour and saw-mills, an Arsenal of the United States, containing about 80,000 stands of arms, and an Armoury for the manufacture of fire-arms. A railroad extends from this place to Winchester, one of the most flourishing towns in the State, with 3620 inhabitants. It stands on the site of old Fort Loudoun, in the midst of a very rich and highly cultivated tract, inhabited by an industrious and thriving population. Winchester is the depôt of the surrounding country, and its trade and manufactures are extensive. To the north is the thriving and busy little village of Martinsburg, with 1600 inhabitants. It contains two flour-mills, a brass and iron-foundery, a woollen-manufactory, tanneries, &c. The northwestern counties of the Valley contain no considerable towns, but they are remarkable for their luxuriant river-bottoms, their treasures of coal and iron, and for the bold and grand features of the scenery. Ascending from Winchester, we pass Newmarket and Woodstock, industrious little towns, with about 1000 inhabitants each, and reach Staunton, which, although standing near the head of the valley of the Shenandoah, at an elevation of 1200 feet above the sea, is situated in a deep basin surrounded by high hills. It has 2000 inhabitants, engaged in trade and mechanical occupations, and contains the Western Lunatic Hospital, a State establishment capable of accommodating about 80 patients. In the vicinity there are two remarkable caves: Madison's cave extends about 300 feet into the earth, branching into subordinate caverns, and terminating in two basins of water, of about 30 or 40 feet in depth; Weyer's cave is much more extensive, and its numerous halls and chambers are pillared or draperied with an astonishing profusion of stalactites, which in some places resemble stiffened water-falls, in others hang in rich festoons and folds like tapestry, or seem to rise from the floor like columns, thrones, towers, or statues; it extends 1260 feet into the ground, and contains upwards of 20 large rooms beside numerous passages and galleries; one of these halls is 260 feet in length, 33 high, and from 10 to 20 wide, and another is 153 by 15, with a height of 60 feet.

1133

Rock Bridge, Virginia.

Further south we enter the upper valley of the James River, in which stands the town of Lexington with about 800 inhabitants, containing a State Arsenal with 30,000 stand of arms, and the halls of Washington College. About 15 miles further south is the celebrated Natural Bridge (*fig.* 1133.), according to Mr. Jefferson, "the most sublime of Nature's works." It is an arch reaching across a narrow ravine, which extends for some distance above and below, at the height of 215 feet above the stream which flows under it, 80 feet wide, and 93 feet long. "Though the sides of this bridge are provided in some parts with a parapet of fixed rocks, yet few men have resolution to walk on them and look over into the abyss. You involuntarily fall on your hands and knees, creep to the parapet, and peep over it. If the view from the top be painful and intolerable, that from below is delightful in an equal extreme. It is impossible for the emotions arising from the sublime to be felt beyond what they are here; so beautiful an arch, so elevated, so light, and springing as it were up to Heaven! The rapture of the spectator is really indescribable." (*Jefferson, Notes on Virginia.*)

The Valley contains a profusion of mineral springs, comprising thermal waters impregnated with free carbonic acid and nitrogen gases, and holding also a large amount of carbonic acid in combination, chalybeates, and sulphuretted springs abounding in sulphuretted hydrogen gas and various sulphates: many of these waters have acquired much reputation for their medicinal properties, and some of them are much resorted to. Among these are the Botetourt, Augusta, Rawley, Shannondale, Yellow, Alum, Hot, Warm, and Sweet Sulphur Springs, of great and various virtues. The Sweet Springs are of the temperature of 73°: the Warm, of 98°, and the Hot of 106°. We may here notice also the celebrated group comprising the White, Red, Gray, Salt, and Blue Sulphur Springs; for, although lying beyond the Alleghany, they are commonly visited in connection with the former. As we are not yet in possession of any minute scientific account of these healing fountains, we refer to a former page (392) of this work, for some general views of their situation and character.

The southwest corner of the State is a wild, broken, mountainous tract, interspersed with fine valleys, and richly stored with mineral treasures, including salt, coal, lead, iron, copper, gypsum, limestone, and valuable medicinal springs. The sulphuret and carbonate of lead are wrought in Wythe County, and there is an iron ore in the same region, which sometimes yields by the ordinary smelting process steel of a superior quality. About 200 tons of lead are made here annually. The little village of Saltville, on the north fork of the Holston river, is the principal seat of the salt manufacture of this district. Abingdon, the principal town, is an industrious and prosperous little place, with an increasing trade and a population of 1000 souls. A few miles west of the village of Estillville, is a remarkable Natural Tunnel, from 50 to 150 feet in width, from 70 to 80 in height, and 150 yards in length; it is in fact a winding passage through the base of a mountain, differing from the Natural Bridge only in the greater length and inferior elevation of the cavity; a small stream winds its way through the Tunnel. "One of the most curious objects in the particular district of which we have just been treating, is the Lake near the summit of the Salt Pond Mountain in Giles County. The erroneous impressions and absurd speculations to which it has given rise, will be accepted as an apology for the few descriptive remarks which I shall here present. This beautiful sheet of water is situated at the intersection of the Salt Pond Mountain and several of its spurs, and not, as is commonly supposed, on the top of the mountain. Its height above the base of the mountain is probably from 900 to 1000 feet, but it is surrounded by steep and lofty hills on every side, excepting that by which it is approached, and that through which its waters find a small outlet, falling in a picturesque cascade of great height, and then flowing rapidly into the creek below. The outlet appears formerly to have been deeper than at present, and the extent of the lake was therefore much less than it now is. Rocks and earth gradually accumulating at the passage, have dammed the waters up, and hence the trees and shrubs which grew upon its margin, may now be seen sometimes standing erect at a considerable depth beneath its surface. Its length is about three quarters of a mile; its greatest width about half a mile. By careful soundings from side to side in many parts of it, the greatest depth that could be found was from 56 to 60 feet; but such was the transparency of the water, that the bottom could be seen nearly in its deepest parts. No animal is found in it but a small species of salamander, or water-lizard." (*Rogers's Geological Reconnoissance.*)

Passing down the valley of the New River, whose foaming and broken torrent and abrupt, towering cliffs present many scenes of wild grandeur, we enter the green meadows and cultivated fields of the Great Kanawha. Charleston, the principal town of this region, is a small village with about 1000 inhabitants, situated in the midst of the great salt-works of the Kanawha. Guyandotte, at the mouth of the river of the same name, is a noted landing-place for travellers from the western waters to the eastern States. Clarksburg and Morgantown are thriving villages on the Monongahela. Wellsburg, on the Ohio, surrounded by rich beds of coal, is the seat of considerable trade and manufacturing industry; here are several large flour and saw-mills, three flint and cut-glass works, several cotton and woollen-mills, salt-works, &c., and about 40,000 barrels of flour are annually shipped from the town. Population, 1500.

The city of Wheeling, surrounded by rich coal-beds and a highly fertile country, and standing at the head of steam-boat navigation on the Ohio during the season of low water, is one of the most flourishing trading towns in the country. The city stands on a narrow plain, in the rear of which rises a range of steep river hills, and is therefore chiefly built in a single street along the river. The population increased from 1567 in 1820, to 5222 in 1830, and in 1835 was estimated to exceed 8000. There are 20 steam-boats owned here, 26 steam-engines are in operation, and a great quantity of goods are forwarded from this point in wagons by the National Road to the east, and by keel-boats, flat-boats, and steamers down the river. The number of steam-boat arrivals here in 1834 was 738. Four iron-founderies, and as many steam-engine factories, 4 cotton and woollen-mills, 7 glass-houses and cut-glass works, an extensive rolling and slitting-mill and nail-factory, 3 steam flour-mills, 2 paper-mills, copperas, white-lead, and sheet-lead manufactories, tobacco-manufactories, tanneries, smitheries, &c. are among the manufacturing establishments, in which about 34,000 tons of coal are consumed annually.

Professor Rogers closes his report, already quoted, with the following very just remarks on Western Virginia:—"How magnificent is the picture of the resources of this region, and how exhilarating the contemplation of all the happy influences upon the enterprise, wealth, and intellectual improvement of its inhabitants, which are rapidly to follow the successive development of its inexhaustible mineral possessions! In a country where the channels of nearly all the principal rivers have been scooped out in part through beds of coal, where some of them are paved with the richest ores of iron, and where the very rock itself, the sterile sand-stone of the cliffs and mountains, is enriched at certain depths with abundant stores of salt, what more is needed to fulfil the happy and glorious destinies that await it, than to awaken enterprise to a due appreciation of the golden promises it holds out, and to direct industrious and active research to the thorough investigation of the character, position, and uses of the treasures it contains!"

2. *State of North Carolina.*

North Carolina has the Atlantic ocean on the east, and Virginia on the north; presenting a broad front to the sea, it gradually contracts its breadth, between the encroachments of South Carolina and Tennessee, until it terminates on the west in a narrow strip lying between Tennessee and Georgia. Its length is about 450 miles, with a breadth varying in the eastern section from 120 to 180 miles, and diminishing in the western part from 100 to 20; and it has an area of 50,000 square miles. It extends from 33° 50′ to 36° 30′ N. lat., and from 75° 25′ to 84° 30′ W. lon. The eastern part of the State forms as it were a chaos of land and water; low, narrow islands of sand extend along the coast, beyond which stretch into the sea extensive shoals, and within which wide, shallow lagoons penetrate into the main-land. This last consists of an extensive tract of swamps traversed by sluggish streams, which the low and level surface allows to spread out into broad basins. For sixty miles from the sea the country is a perfect plain; but at that distance it begins to rise into small hills, the rivers assume the character of running waters, and the whole aspect of nature is changed. Passing through a fertile, populous, and flourishing belt of hilly land, we reach the mountainous tract of North Carolina.

The mean elevation of the section to the west of the Catawba is about 800 or 1000 feet, and the Blue Ridge, which here forms the water-shed between the Ohio and the Atlantic, attains the height of about 5500 feet. The western boundary is formed by the prolongation of the Kittatinny Mountain, known under the local names of Stone, Iron, Bald, Smoky, and Unaka Mountain. One of its summits, the Roan Mountain, reaches the height of 6038 feet, forming on its top a broad, level meadow of considerable extent. Still more lofty is the Black Mountain, which, according to recent measurements, has an elevation of 6476 feet, being considerably higher than any other known point in the United States, this side of the Rocky Mountains. The tract between these two ridges is an elevated table-land from 2000 to 2500 feet above the sea. The Pilot Mountain or Mount Ararat, although of much inferior height, deserves to be mentioned on account of the singular symmetry of its structure, and its position in a perfect plain; it is a regular cone rising to the height of 1550 feet above the level region in which it stands, and commanding a striking view of great extent.

North Carolina abounds in considerable rivers, but enjoys few facilities for navigation in proportion to the number and size of the streams, which are shallow or broken in their course or lose themselves in lagoons difficult of access, or are obstructed by bars. The American Coast Pilot "declines giving directions for sailing into many ports in North Carolina, as all the harbours are barred, and always subject to alteration by every gale, particularly in the equinoctial storms; but the bars create only a part of the danger in sailing into these ports; it is the vast bed of shoals that lie within the bars, with their innumerable small channels, which give to the tide so many different directions that even the pilots who live on the spot, find it difficult to carry a vessel in without some accident." The Chowan, which is formed by the junction of the Meherrin and Nottoway, flows into Albemarle Sound, and admits small vessels to Murfreesboro'. The Roanoke empties itself into the same shallow basin, and is navigable by small vessels 30 miles, and by boats to Weldon, at the foot of the falls; above the falls it affords, with the aid of some side-cuts, a boat navigation of about 245 miles to Salem; the length of its course from the Valley of Virginia exceeds 400 miles. Tar River, which in the lower part of its course expands into a wide estuary called Pamlico River, is navigable to Tarboro', 90 miles; and the Neuse, which has a longer course, to Kingston. Cape Fear River is the principal stream which has its whole course within the State; rising on the northern border, it pursues a southeasterly course of 280 miles, and reaches the Atlantic at Smith's Island; there are from 10 to 14 feet of water on the main bar. The Waccamaw passes into South Carolina, flowing for a considerable distance near and parallel to the coast. The Lumber and Yadkin also pass into that State, taking the names of the Little and Great Pedee. The Catawba, which rises in the Blue Ridge, flows into South Carolina, while the French Broad, Little Tennessee, Hiwassee, and New River, descend in an opposite direction from the same mountain.

Albemarle Sound is a shallow lagoon extending 60 miles into the land, with a breadth of from 5 to 15; it is entered only through two long, narrow sheets of water; one of which, under the name of Currituck Sound, extends north almost to the Chesapeake Bay; the southern arm communicates with Pamlico Sound, which is 86 miles in length by from 10 to 20 in breadth. The Hatteras Banks are a low sand-bank lying between Pamlico Sound and the sea, and projecting far out into the ocean, forming the terrible headland of Cape Hatteras, whose storms and shoals are the dread of seamen. A few hundred fishermen and pilots, called Bankers, inhabit these dreary coasts. The southern termination of the banks is Cape Lookout, and further south is Cape Fear, names indicative of the feelings with which they are approached by navigators.

The swamps are a striking feature in the eastern part of the State. The Great Dismal Swamp lies in the northeastern part and extends into Virginia. It is 30 miles in length, and 10 in breadth, and covers an extent of 150,000 acres; the soil is marshy, and the whole tract is overgrown with pine, juniper, and cypress trees, with white and red oak in the drier parts. In the centre, on the Virginia side, is Lake Drummond, 15 miles in circuit. Many parts of the swamp are impervious to man, from the thickness of the woods and bushes. A canal is carried through it from Norfolk to Albemarle Sound. Between Albemarle and Pamlico Sound is another, called Alligator, or Little Dismal Swamp, which also has a lake in the centre; this has been partly drained by means of a canal, and the land rendered fit for the cultivation of rice. It is estimated that there are 2,500,000 acres of swampy land within the State, capable of being drained at a trifling cost, and fitted for the culture of cotton, tobacco, rice, and maize. These swamps have a clay bottom, over which lies a thick stratum of vegetable compost. The drained lands are found to be exceedingly fertile.

Among the mineral productions, the most important appear to be gold and iron. Bog iron ore is found in the eastern section; hematite occurs abundantly near the dividing line between the upper and lower country; the magnetic ore exists further west, and has been pretty extensively worked; in 1830 there were 30 forges and 3 furnaces in this region. Plumbago is met with in the vicinity of Raleigh, and has been largely wrought and exported. The gold region of North Carolina embraces the section on both sides of the Blue Ridge, and extends to the east of the Yadkin. The deposite or surface mines are the most easily worked, but the vein mines are the most durable. We have no means of ascertaining the amount of gold that has been produced here; the famous lump, which weighed 28 lbs., was found at Reed's Mines, in Cabarras County, and there was another found weighing 13 lbs. Novaculite or hone-stone of a very superior quality is quarried in this State.

The pine forests of North Carolina, which cover nearly the whole of the eastern part of the State, yield not only much lumber for exportation, but also nearly all the resinous matter used in ship-building in this country. The resinous products are turpentine, scrapings, spirits of turpentine, rosin, tar, and pitch; turpentine is merely the sap of the tree obtained by making an incision in the bark; the turpentine flows out in drops, which fall into a box placed to receive them; the incisions are generally made about the middle of March, and the flow of the turpentine usually ceases about the end of October; the boxes are emptied five or six times in the course of a year; on an average forty trees will yield a barrel of turpentine, and about a third of that amount of scrapings, or that part of the sap which becomes hard before it reaches the box. Oil or spirits of turpentine are made by distillation, during which process the oil comes over, and leaves a residuum, called rosin. Tar is made by burning billets of pine under a heavy covering of turf or earth; a slow combustion without flame is thus caused, and the tar which exudes is collected, by means of a trench, into a cavity dug in the ground for the purpose. The tar of the north of Europe is preferred in Europe to that of the United States, as it is much cleaner, better packed, and made from trees recently felled. Pitch is obtained from tar by boiling it down to dryness.

The great diversity of climate between the eastern lowlands and the western high country, produces a corresponding diversity in the agricultural productions of the two sections; while the former yields cotton, rice, and indigo, the more northern grains and fruits thrive in the latter, which yields wheat, Indian-corn, tobacco, and hemp. The cotton crop of North Carolina is about 30,000 bales. Manufactures can hardly be said to exist, except in the shape of household industry; and the dangers of the coast, and the want of good harbours, carry the trade of North Carolina chiefly through Virginia, South Carolina, Georgia, and Tennessee. Nor has much been done in this State towards extending the facilities for transportation, although the most important productions are of a bulky character, requiring cheap and easy modes of conveyance. The Dismal Swamp Canal is partly, and its branch, the Northwest Canal wholly, in this State. The Clubfoot and Harlow Canal connects the Neuse with the harbour of Beaufort, and there are several side-cuts round the falls of the rivers. The Raleigh and Gaston rail-road, from the former place to the Roanoke, is in progress.

The ill-starred attempts of Raleigh to plant an English colony in North America towards the close of the sixteenth century, were made on the coasts of North Carolina, then known to the English under the general name of Virginia. In 1761 a few persons from Massachusetts settled at Cape Fear River, and other settlements were made about that time from Europe. This region, however, formed a part of the general government of Carolina until 1720, when it was separated from the southern part, and took its present name.

The constitution was formed in 1776, and amended in 1835. The legislative authority is vested in two houses, consisting of a Senate and House of Commons, and styled the General Assembly. These bodies and the Governor are chosen for the term of two years by popular vote, and the Council of State is elected by joint vote of the two houses. The right of voting for Senators is confined to 50 acres freeholders. The judges are also chosen by the General Assembly, and hold office during good behaviour.

The University of North Carolina, at Chapel Hill, about 30 miles from Raleigh, is the principal educational institution in the State; there is a pretty large number of academies, but no system of general education has been adopted. The Methodists the Baptists are the most numerous religious sects, and there are also a good many Presbyterians and Episcopalians, with some Lutherans, Moravians, Friends, and Roman Catholics.

The State is divided into 65 counties, and contains a population of 737,987, of which 472,846 are whites, 19,540 free blacks, and 245,601 slaves.

Counties.	Population.		Counties.	Population.	
	Total.	Slaves.		Total.	Slaves.
Anson	14,095	4,778	Lenoir	7,723	3,919
Ashe	6,987	492	Lincoln	22,455	4,882
Beaufort	10,969	4,165	Macon	5,333	458
Bertie	12,262	6,797	Martin	8,539	3,279
Bladen	7,811	3,122	Mecklenberg	20,053	7,146
Brunswick	6,516	3,107	Montgomery	10,919	2,295
Buncombe	16,281	1,666	Moore	7,745	1,673
Burke	17,888	3,626	Nash	8,490	3,706
Cabarras	8,810	2,258	New Hanover	10,959	5,616
Camden	6,733	2,025	Northampton	13,391	7,242
Carteret	6,597	1,593	Onslow	7,814	3,144
Caswell	15,185	6,434	Orange	23,908	7,373
Chatham	15,405	5,056	Pasquotank	8,641	2,621
Chowan	6,697	3,768	Perquimans	7,419	2,749
Columbus	4,141	1,073	Person	10,027	4,432
Craven	13,734	6,129	Pitt	12,093	5,365
Cumberland	14,834	5,057	Randolph	12,406	1,462
Currituck	7,655	2,188	Richmond	9,396	3,512
Davidson	13,389	1,918	Robeson	9,433	2,499
Duplin	11,291	4,434	Rockingham	12,935	4,296
Edgecombe	14,935	7,075	Rowan	20,786	6,189
Franklin	10,665	4,960	Rutherford	17,557	3,388
Gates	7,866	3,648	Sampson	11,634	3,884
Granville	19,355	9,166	Stokes	16,196	2,841
Greene	6,413	2,872	Surry	14,504	1,945
Guilford	18,737	2,594	Tyrrell	4,732	1,391
Halifax	17,739	9,780	Wake	20,398	8,109
Haywood	4,579	291	Warren	11,877	7,327
Hertford	8,537	3,710	Washington	4,552	1,712
Hyde	6,184	1,943	Wayne	10,331	3,517
Iredell	14,918	3,682	Wilkes	11,968	1,492
Johnson	10,938	3,639	Yancey	formed in 1832.	
Jones	5,608	3,075			

Population at Different Periods.

	Total.	Slaves.
1790	393,751	100,572
1800	478,103	133,296
1810	555,500	168,824
1820	638,829	205,017
1830	737,987	245,601.

Beaufort, the only port of North Carolina directly upon the sea, admits vessels drawing 12 feet of water, and the harbour is safe and commodious; but the town is inconsiderable. Wilmington, 40 miles from the sea on Cape Fear River, is the most important commercial town of the State, and it carries on a considerable trade with the West Indies; vessels drawing 10 or 12 feet of water come up to the town, and there is good anchorage within Smith's Island, at the mouth of the river, for large vessels. The population of Wilmington is about 3000; the shipping belonging to the port amounts to 12,816 tons. Newberne, on the south bank of the River Neuse, 80 miles from Pamlico Sound, is a place of some commerce, although large vessels cannot come up to the town, and the navigation is tedious and difficult for smaller craft. Newberne is pleasantly situated and well built, and, with a population of 3762 souls, is the principal town in the State. Washington and Tarboro' on the Pamlico river, Plymouth and Halifax on the Roanoke, Edenton on the Chowan, and Elizabeth on the Pasquotank, are small trading towns.

Receding from the low country we come to Raleigh, the capital of the State, a thriving little town with 1700 inhabitants. A fine State-House of granite is now erecting here, in place of the one destroyed by fire in 1831, when Canova's statue of Washington was unfortunately ruined. Fayetteville is a busy and flourishing town at the head of boat navigation on Cape Fear River, with 2868 inhabitants. It contains an United States Armoury. Salem, Salisbury, and Charlotte are small towns in this section. The last mentioned has of late rapidly increased in population and importance on account of its proximity to the gold mines, and has at present 2000 inhabitants. A mint for the coinage of gold is now erecting here. The Natural Walls of Rowan, as the trap dykes near Salisbury have been called, have given rise to much absurd speculation, having been at one time considered artificial works.

3. *State of South Carolina.*

South Carolina lies in the form of a triangle, wedged in between North Carolina and Georgia, and having the Atlantic Ocean for its base; its coast line is nearly 200 miles in length, and its extreme breadth, from east to west, is 275 miles. The State extends from 32° to 35° 10′ N. lat., and from 78° 44′ to 83° 21′ W. longitude, having an area of 33,000 square miles.

The coast, for 100 miles from the ocean, is covered with forests of pitch pine, with swampy tracts here and there. Beyond this is a parallel belt of territory, called the Middle Country, consisting of low sand hills, resembling the waves of an agitated sea. This tract occasionally presents an oasis of verdure, or a few straggling pine trees, and sometimes a field of maize or potatoes. The Middle Country is bounded by another belt of land called the Ridge, where the country rises by a steep and sudden elevation, and afterwards continues gradually to ascend. Beyond, the surface exhibits a beautiful alternation of hill and dale, interspersed with extensive forests, and watered by pleasant streams. There are a few lofty mountains in the western part, belonging to the Blue Ridge. Table Mountain, in this chain, rises to the height of 4000 feet above the level of the sea. King's Mountain, in York district, lies partly in North Carolina.

The principal rivers of South Carolina have their sources in the Blue Ridge. The Great Pedee, which bears the name of the Yadkin in North Carolina, reaches Winyaw Bay after having received the waters of Lynch's Creek and Black River from the right, and the Little Pedee and Waccamaw from the left. It is navigable by steam-boats 120 miles to Cheraw, above which there is a fall of 15 feet in 18 miles. The Santee, the greatest river of the State, is formed by the junction of the Catawba or Wateree, and the Congaree, and it reaches the sea without receiving any considerable tributary, by two mouths. Steam-boats ascend to Camden and Columbia, and by the aid of canals there is navigation for boats to the mountains. The Congaree is itself formed by the junction of two considerable navigable streams, the Saluda and the Broad River. The Edisto, Combahee, and Cossawhatchie, are smaller streams in the southern part of the State, navigable to some distance by small vessels. Ashley River is navigable by schooners 20 miles, and Cooper's, which joins it at Charleston, 30 miles, to the Santee Canal.

The rivers of South Carolina afford some considerable navigable facilities for small river craft; but in the lower part of their course they are shallow and obstructed by bars. The harbours of this State are generally of little value, but the coast presents numerous entrances, which are accessible to small vessels, and which afford advantages for an active coasting trade. The harbour of Charleston is obstructed at the entrance by a dangerous sand-bar, and that of Georgetown will only admit small vessels. The harbour of Beaufort or Port Royal is the best in the State, and is sufficient to receive a navy, but is little frequented. Stone Inlet has nine or ten feet of water, and was used during the blockade of Charleston in 1775. St. Helena Sound is the most spacious opening for a great distance along the coast, but although about three miles wide and ten miles long, it is too much beset with shoals to be of any great commercial value.

The southern part of the coast is skirted by a range of islands, separated from the main land by narrow channels, which afford an inland steam-boat navigation, from Charleston to Savannah. These islands, like the neighbouring continent, are low and flat, but are covered with forests of live oak, pine, and palmettoes, and they yield the black-seed or Sea Island cotton. Before the cultivation of cotton, many of them were the haunts of alligators, and their thick woods and rank weeds rendered them impenetrable to man. At present, they are under cultivation, and well inhabited; and as the voyager glides by their shores in a steam-boat, he is enchanted with the prospect of their lively verdure, interspersed with thick clumps of palmettoes, and flowering groves of orange trees. The live oak, which is so called on account of its being an evergreen, is a noble tree, with a trunk sometimes 12 feet girth; its long branches are spread horizontally, and festoons of moss hang from them almost sweeping the ground. The laurel is here seen covered with large white blossoms, shaped like a lily, and a foot in circumference. The long sandy beaches, which border these islands toward the sea, are covered with thousands of water-fowl.

The mineral resources of South Carolina are inconsiderable; the gold belt, however, extends through the western part of the State, and has yielded valuable returns, and iron ore is wrought in the same section. Cotton and rice are the agricultural staples; the former of which clothes more of mankind than either wool, flax, hemp, or silk, and the latter feeds more of the human race than any other grain; the cotton crop is about 65,500,000 pounds, of which a part is the much-prized long staple or Sea Island cotton. Rice is raised only in the low country, and chiefly in the tide-region, where the immense swamps, easily irrigated by means of the rise of the tide in the rivers, bear the name of tide-swamps; the river-swamps, above tide-water, were once used extensively for the same purpose, under the name of inland rice-swamps; but as they were found too low and subject to inundations by the floods, their cultivation has been generally abandoned. Rice was first sown in Carolina in 1693, and in about fifty years from that time, the amount annually exported had reached 100,000 barrels, constituting the chief article of exportation from the colony. Raised in the beginning on the uplands, it was afterward transferred to the swamps, before looked upon as useless; and the introduction of the water-culture, or the method of destroying the weeds by flooding the rice-field instead of by the hoe, saved a vast amount of labour. The process by the wet culture is as follows; the seed is sown, about the middle of March, in rows in the bottom of trenches, and the field is flooded to the depth of several inches for the purpose of sprouting the seeds; after four or five days the water is drawn off until the plant is four leaves high (three or four inches), which is the case in about a month; the field is then submerged again for about a fortnight in order to destroy the weeds, after which it remains dry for two months, during which time the surviving weeds are destroyed, and the soil is loosened by hoeing; the water is then introduced for the last time in the middle of July, and the grain ripens in this state. It is then cut with sickles, and thrashed by hand-flails; the outer husk is next detached by passing the paddy between a pair of mill-stones, and the inner pellicle, by subjecting the grain to trituration under a pestle weighing from 250 to 300 pounds; after having been winnowed it is packed in casks of about 600 pounds, and is ready for shipment. Of late, however, it has been found that the grain in the husk will better preserve its sweetness and flavour during a long voyage, than when shelled, and large quantities are now exported in the rough state; the amount annually exported from the United States, chiefly from South Carolina, varies from 120,000 to 150,000 and even 175,000 tierces, of the value of from 2,000,000 to nearly 3,000,000 dollars. Indigo was for some time one of the staples of this State: its cultivation was introduced in the middle of the last century, and at the breaking out of the revolutionary war, about 1,000,000 pounds were exported annually: but toward the close of the century the price was so much lowered by large importations from the East Indies into England, that it gave way to cotton, which is raised on the same lands.

There are no manufactures of any importance in South Carolina, but the commerce of the State is necessarily extensive; it consists in the exports of her own raw produce, including rice, cotton, tar, pitch, turpentine, and lumber, and of large quantities of the productions of Georgia and North Carolina, and in the import of manufactured articles, wines, tropical fruits, &c., for home consumption. The value of the imports has increased from 1,238,163 dollars, in 1831, to 1,787,267 in 1834; and that of the exports from 6,575,201 dollars, to 11,[illegible]19,565 dollars, chiefly in cotton. The shipping belonging to the State amounts, however, to only 14,058 tons, and the foreign and coasting trade is almost wholly in the hands of foreigners and northern ship-owners; of 100,842 tons cleared from the State in 1834, 40,495 were foreign shipping.

Several useful canals have been constructed in this State, but none of them is of great extent; the Santee Canal extends from the head of sloop navigation on Cooper's River, 34 miles from Charleston, to the River Santee, a distance of 22 miles, and forms the channel to the sea for large quantities of the produce of the upper country. Between Camden and the North Carolina line, four short canals have been cut round the falls of the Wateree and Catawba; these are the Wateree Canal, above Camden, 5 miles in length, overcoming a fall of [illegible]2 feet; Rocky Mount Canal, overcoming a fall of 121 feet by 15 locks; Catawba Canal, 3 miles, with a rise of 56 feet; and Landsford Canal, of 2 miles. On the Congaree, at the junction of the Broad and Saluda Rivers, a canal of 3 miles overcomes a fall of 34 feet; and on the Broad River, Lockhart's Canal passes falls of 51 feet by a side-cut of 2 miles. On the Saluda, are the Saluda Canal, 2½ miles long, overcoming a fall of 34 feet, and Drehr's and Lorick's Canals, of still less magnitude.

The Charleston and Augusta Rail-road, extending from the former city to Hamburg on the Savannah, opposite Augusta, 135 miles in length, is the longest work of the kind yet constructed. It passes the Edisto by a viaduct, and reaches the summit of the table-land between that river and the Savannah, 510 feet above Charleston, 16 miles from Hamburg, whence the descent to the river is 360 feet; there is here one inclined plane passed by a stationary engine; the road, consisting of a timber rail capped with an iron plate, is built on piles, and no embankments are made in the grading. Another great work is now projected, and the necessary reconnoissance has proved its practicability. This is the Charleston and Cincinnati Rail-road, which will pass through Columbia, up the valley of the Broad River into North Carolina, surmount the Blue Ridge by inclined planes, and follow down the valley of the French Broad River to Knoxville, whence it will be continued through Lexington to the Ohio River; the estimated cost is 10,000,000 dollars; whole distance, 600 miles.

The first permanent settlement in South Carolina was made in Charleston in 1680; but this part of the country had been granted to Lord Clarendon and others by Charles II., in 1663, under the name of Carolina. A constitution was formed by the celebrated Locke for the government of the colony, which proved to be wholly unsuited to its purpose. The administration continued to be managed by the proprietors of Carolina until 1719, at which time the people renounced their former governors, and South Carolina was thenceforth a royal colony. In 1780 and 1781, the State became the theatre of military operations, and was over-run by the British forces. The present constitution was adopted in 1790. The Legislature, styled the General Assembly, consists of two houses, a Senate, chosen for the term of four years, and a House of Representatives, chosen for two years; the Senators are apportioned according to property and population; the Representatives according to population. The Governor and Lieutenant-Governor are chosen for the period of two years by the General Assembly, and the Judges are elected by the same body, and hold office during good behaviour. Suffrage is nearly universal, a small property qualification only being required for whites, but blacks are excluded from the privilege. Free schools for poor children have been established throughout the State, and in the beginning of 1833, 8390 children were instructed, in 817 schools, at a charge of 37,000 dollars. There is a considerable number of useful and respectable academies; the Charleston College in Charleston, and the College of South Carolina at Columbia, are valuable institutions; the latter has a library of 10,000 volumes, and has been liberally endowed by the State. There are three Medical Schools in Charleston, a Presbyterian Theological Seminary at Columbia, a Lutheran Theological Seminary at Lexington, and a Baptist Theological Seminary at the High Hills. The prevailing religious sects are Baptists, Methodists, and Presbyterians; there are also many Episcopalians and Lutherans, and some Roman Catholics.

South Carolina is divided into 29 Districts, which are subdivided for local objects into parishes. Of the whole population, amounting to 581,185, the whites are 257,864, and the slaves 315,401; there are also 7920 free blacks; the blacks are therefore considerably more numerous than the whites, and as they are unequally distributed, their numerical superiority is still greater in the low country, where they are to the whites as three to one; in the hilly country the whites are rather the most numerous, and in the western part of the State there are nearly three whites to one black.

Districts.	Population.		Districts.	Population.	
	Total.	Slaves.		Total.	Slaves.
Abbeville	28,149	13,106	Lancaster	10,361	4,123
Anderson	17,169	4,427	Laurens	20,263	7,243
Barnwell	19,236	8,497	Lexington	9,065	3,790
Beaufort	37,032	30,861	Marion	11,008	3,826
Charleston	86,338	62,083	Marlborough	68,582	4,333
Chester	17,182	7,142	Newberry	17,441	8,316
Chesterfield	8,472	2,992	Orangeburg	18,453	10,931
Colleton	27,256	21,484	Pickens	14,473	2,866
Darlington	13,728	6,913	Richland	14,772	5,736
Edgefield	80,509	15,349	Spartanburg	21,150	4,927
Fairfield	21,546	11,746	Sumter	28,277	18,721
Georgetown	19,943	17,798	Union	17,906	7,165
Greenville	16,476	5,064	Williamsburg	9,018	6,163
Horry	5,245	1,714	York	17,790	6,633.
Kershaw	13,545				

Population at Different Periods.

	Total.	Slaves.
1790	249,073	107,094
1800	345,591	146,151
1810	415,115	196,365
1820	502,741	258,581
1830	581,185	315,401.

Charleston, the principal city of South Carolina, and the only considerable city in the Atlantic States south of the Potomac, stands on a point of land between the Ashley and Cooper rivers, six miles from the ocean. These rivers afford broad and deep basins accessible to large ships on both sides of the city, and between their junction and the ocean is a capacious harbour, at the entrance of which lies a bar, excluding ships of more than 16 feet draught. The harbour is open to easterly winds, and vessels are much exposed during storms from that quarter, so that at one time they were prohibited by law from lying at the wharves from the last of July to the middle of September. The site of Charleston is almost a dead level, rising but a few feet above the spring tides, and subject to inundations when the sea is driven in by violent winds; it has been several times laid under water and suffered considerable damage, as in 1699, 1728, 1752, and partially in 1797. The city is regularly laid out, with streets running east and west from Ashley to Cooper river, and others intersecting them nearly at right angles, from north to south. It is also in general well built; the streets are lined with the Pride of India, while the elegant villas, adorned with verandahs reaching from the ground to the tops of the houses, surrounded by green hedges and buried in the rich foliage of orange trees, magnolias, and palmettoes, have an air of wealth and elegance. Among the public buildings are 19 churches, the City Hall, Exchange, two Arsenals, Theatre, College Halls, Alms-House, Orphan Asylum, &c.; the City Library contains about 15,000 volumes, and the Orphan Asylum supports and educates 150 destitute children. The city is healthier than the surrounding country, and the planters from the low country, and many opulent West Indians spend the summer here. Its commerce is extensive; comprising nearly the whole of that of the State, and its shipping amounts to 13,244 tons. The population increased from 18,711, in 1800, to 30,289 in 1830, of which number 12,928 were whites; including the Neck, which is adorned with numerous plantations in a high state of cultivation, the population may be stated to exceed 40,000 souls. The approach to the city is defended by Fort Moultrie, on Sullivan's Island, at the mouth of the harbour, and by Castle Pinckney opposite the extreme point of the city, within. A settlement was first made here in 1671 on the south side of Ashley river, but in 1680 the inhabitants removed to the present site. In 1776, an unsuccessful attack was made on the fortress on Sullivan's Island by a British fleet under Sir Peter Parker; but in 1780, the city was besieged by the British on the land side, and forced to surrender on the 12th of May. Moultrieville on Sullivan's Island is a pleasant little town, and the island is much resorted to during the summer and autumn. Eutaw Springs, in the western part of Charleston District, near the Santee, was the scene of some fighting in 1781.

Beaufort, to the south of Charleston, is a little town on Port Royal Island, about 16 miles from the sea, with a fine harbour, which is little used. Georgetown, to the north on Winyaw Bay, being the depôt of an extensive and well-cultivated district, has considerable trade, but is not accessible to vessels drawing more than 11 feet of water. It is, however, unhealthy, and during the autumn, many of the inhabitants resort to North Island at the mouth of the bay. Cheraw is also a small trading town on the Pedee near the North Carolina line.

In the middle country, Orangeburg, Hamburg, Camden, and Columbia, are the principal towns. Hamburg derives its importance from its being the inland terminus of the rail-road from Charleston to the Savannah River. Columbia, the capital of the State, is pleasantly situated on the Congaree, below the junction of the Saluda and Broad Rivers. It is regularly laid out with very wide streets, and is a neatly built town with 3310 inhabitants. It contains a handsome State-House, a Lunatic Asylum, the Halls of South Carolina College, and several churches. Granby is a little town on the opposite side of the river. Camden is a place of some trade, situated on a rising ground on the Wateree, with about 1500 inhabitants. Here the American forces were twice defeated in the war of the revolution, under General Greene in 1780, and under General Gates in 1781.

In the higher district is the little village of Cambridge near the Saluda, noted as the scene of some events during the revolutionary war, under the name of Ninety-Six, derived from a frontier post established there about ninety-six miles from the Cherokee Indians. In the same region, near the northern border of the State, is Cowpens, the spot on which Tarleton was defeated by General Morgan; and a little to the east, near the Catawba, is King's Mountain, on which a body of British troops under Col. Ferguson was defeated in 1780.

4. *State of Georgia.*

In point of dimensions Georgia is the third State in the Union, being exceeded in that respect only by Virginia and Missouri, and, although the last settled of the Atlantic colonies, it has been surpassed in prosperity and rapidity of growth by none of the eastern States excepting New York. Bounded by North Carolina and Tennessee on the north, by South Carolina and the Ocean on the east, by Florida on the south, and by Alabama on the west, its ample surface of 62,000 square miles in area extends from 30° 20′ to 35° N. lat., and from 81° to 85° 40′ W. lon. The whole of its northeastern and eastern frontier is formed by the noble river Savannah, and the sea, and a considerable part of the western boundary is the fine navigable channel of the Chattahoochee. Its sea-coast is about 100 miles; its length from north to south is 300 miles; its breadth varies from about 250 to 150 miles.

Like the Carolinas, Georgia is divided into several distinct regions, rising gradually from the southeast to the northwest, and forming well-defined belts crossing the State from east to west. "First, from the sea-coast fifty miles back, is a level plain generally of a loose sandy soil, producing spacious high forests of pine, oak, &c. Nearly one-third of this vast plain is what the inhabitants call swamps, which are the sources of numerous small rivers and their branches; these they call salt rivers, because the tides flow near to their sources;

and they generally carry a good depth and breadth of water for small craft twenty or thirty miles upwards from the sea, when they branch and spread abroad like an open hand, interlocking with each other, and forming a chain of swamps across the Carolinas and Georgia, several hundred miles parallel with the sea-coast. The swamps are fed and replenished constantly by an infinite number of rivulets and rills, which spring out of the first bank or ascent. The upper soil of the swamps is a perfectly black, soapy, rich earth, or stiff mud, two or three feet deep, on a foundation or stratum of calcareous fossil which the inhabitants call white marl; and this is the strength or heart of these swamps; they never wear out or become poor, but on the contrary are more fertile by tillage; for when they turn up this white marl, the air and winter frosts causing it to fall like quicklime, it manures the surface." (*Bartram's Travels*).

Above this great maritime level the country rises gradually through a distance of several miles to a second more elevated plain, from 60 to 70 miles broad, from which by a second and rather more abrupt ascent, it again rises and forms a third plain, which reaches to the lower falls of the rivers. These two great levels form the sand-hill belt or pine barrens, chiefly overgrown with a vast forest of long-leafed pine, interspersed, however, with fine meadows or savannahs, "always green, sparkling with ponds of water, and ornamented with clumps of evergreen and other trees and shrubs. The lowest sides of these savannahs are generally joined by a great cane swamp, varied with coppices and hummocks of various trees and shrubs." The next section extends from the lower falls of the rivers to their sources, and comprehends the hilly region, which, blessed with a strong and productive soil and a mild and happy climate, is "everywhere fertile and delightful; continually replenished by innumerable rivulets, either coursing about the fragrant hills, or springing from the rocky precipices, and forming many cascades; the coolness and purity of which waters invigorate the air of this otherwise hot and sultry climate." (*Bartram*). The northern part of the State is traversed by a chain called the Yeona Mountains, which rise to the height of about 3000 feet, and beyond this the great Blue Ridge enters from North Carolina, and, suddenly changing its general direction, runs nearly east and west, and passes into Alabama. Its elevation is estimated to exceed 4000 feet, and it is here the dividing ridge between the Tennessee and the waters that enter the Atlantic and the Gulf of Mexico.

The largest rivers of Georgia rise in the Blue Ridge, and descend in diverging courses to the Atlantic Ocean and the Mexican Gulf. The Savannah, formed by the junction of the Seneca and the Tugaloo from North Carolina, has its sources near those of the Tennessee and Hiwassee, on the one side, and those of the Chattahoochee, on the other, and, after a course of about 300 miles, falls over the last chain of rocky hills into the great plain, at Augusta; it is navigable to this place 250 miles from the ocean for steam-boats of 150 tons, except when the water is low during the summer months, and for large ships to Savannah, there being 18 or 19 feet of water on the bar at low water. Its principal tributaries are Brier Creek and Broad River. The Chattahoochee, rising near the southern branch of the Savannah, pursues at first a southwesterly course, but afterwards turns to the south, and enters Florida, under the name of the Appalachicola; it is navigable for steam-boats during the greater part of the year, to its lower falls at Columbus, 300 miles from its mouth. Its whole length is 500 miles. Flint River rises in the hilly country south of the Chattahoochee, and joins that river in the southwestern corner of the State, after a course of 300 miles; there are falls about 75 miles from its mouth. The Oostenalah and Etowa are large streams, which, taking a southwesterly course, form by their confluence the Coosa, and pass into Alabama.

The Alatamaha is formed by the junction of the Oconee and Ocmulgee, which rise in the hilly region south of the Chattahoochee, and flow for about 250 miles nearly parallel to each other, when the latter bends round to the east and unites its waters with those of the former. There are 12 or 13 feet of water on the bar of the Alatamaha at ebb-tide, and steamboats ascend the Ocmulgee to Macon, and the Oconee to Milledgeville, although there are some obstructions to the navigation. The Ogechee has a course of about 200 miles, and is navigable for small vessels 40 miles, and for large boats to Louisville. The Santilla has a winding course chiefly through the low swamp district. The St. Mary's River rises in a low ridge near the Okefinoke Swamp, and reaches the sea in Cumberland Sound; it has 13 feet of water on the bar at low tide, and sometimes as much as 23 feet in times of flood. The Suwanee and Ocklonnee are considerable streams, which pass into Florida.

Along the southern line of the State, between the head branches of the Suwanee and the St. Mary's, there is an extensive swamp, or rather series of swamps, covered with a thick growth of bay-trees, vines, and underwood, and in the wet season presenting the appearance of a wide lake, containing islands of rich high land. Bartram relates a tradition of the Creeks, that this dismal swamp contains a spot inhabited by a race, whose women, whom they called daughters of the sun, are incomparably beautiful; some of their hunters, when lost in the inextricable bogs, had been relieved by these women, but all their attempts to reach the blissful island had been in vain, and those who went in search of it became involved in perpetual labyrinths which baffled all their efforts. The coast is lined by a succession of low islands, intersected by numerous navigable channels, which afford good inland navigation all along shore. They are generally separated from each other by wide bays or sounds, which bear their names, and receive the rivers of this section. The principal islands are Cabbage Island, Ossaba, St. Catherine's, Sapelo, St. Simon's, Jekill, Cumberland, &c.; they are covered with rich plantations, which produce the valuable long staple cotton, called, from the place of its growth, the Sea-island cotton. The cotton is sown like Indian-corn, and cultivated somewhat in the same manner. The cotton-field is first laid off in ridges or beds, in which the seed is to be sown; in the spring the land thus prepared is *listed*, that is, the ridges are cleared from weeds and grass by the hoe, and ploughed; when the beds are properly finished off, holes are made on the top, about 15 inches apart, into which the seed is thrown, and covered with earth to the depth of about an inch. In the latter part of August or beginning of September, the pods open or blow, and the wool is gathered; after having been dried in the open air, it is separated from the seeds, by passing it between two cylindrical rollers, which do not admit the passage of seeds, and the operation of which is assisted by the action of a comb playing up and down in front of them, and serving to disentangle the wool. It is then moted, or freed from the broken fragments of seeds and other specks, winnowed, and is now ready for packing.

The mineral resources of Georgia are very imperfectly known; copper and iron have been found, but the most valuable mineral production, hitherto, has been gold. Although first found here but a few years ago, a large quantity has already been procured, chiefly from deposits, and scarcely any attempts have been made to carry on systematic mining operations. The gold occurs in the northern part of the State, on both sides of Chattahoochee as far north as the Blue Ridge, and to a considerable, but not well-ascertained distance on the south. The Indian Springs of Butts county are sulphureous waters, and are much resorted to for their efficacy in cutaneous and rheumatic complaints. The Madison Springs, near Athens, are chalybeate.

The great agricultural staples of Georgia are cotton and rice; the cotton crop of the year 1835 was estimated at 300,000 bales; the export of rice for the same year amounted to about 25,000 casks. The other exports are tar, pitch, turpentine, and lumber—the products of the pine forests. The value of the exports for the year 1835 was 7,565,327 dollars; of imports, 546,802.

The State is well supplied with useful navigable channels, which are highly necessary for the transportation of its bulky staples. A canal from the Savannah to the Ogechee, 13 miles, is the only artificial channel of navigation. The Georgia Rail-road from Augusta to Athens, 114 miles, with branches to Greensboro' and Warrenton, and the Central Rail-road from Savannah to Macon, 200 miles, are now in progress. The Macon and Forsyth Railroad, 25 miles, is a continuation of the latter work. Surveys have also been made preparatory to the construction of a rail-road from Athens to the Tennessee, or to the Mississippi, at Memphis.

Georgia was the last settled of the Atlantic States; the charter under which the colony was founded, was granted, in 1732, by George II., in honour of whom it received its name, to the Trustees for the establishing the colony of Georgia. The double purpose of making the settlement was to relieve the distresses of the poor at home, and to secure the frontiers of South Carolina from the Indians and Spaniards. In 1733, General Oglethorpe, one of the Trustees, conducted the first colonists to the Savannah, and several bodies of Germans and Highlanders were soon after brought over. The lands were held on a military tenure. The country was repeatedly invaded by the Spaniards from Florida, who considered the occupation of the English as an encroachment upon their domain. In 1752 the proprietary government was abolished, and Georgia became a royal colony. The western part was detached from the present State in 1802, and now constitutes the States of Alabama and Mississippi.

The present constitution was formed in 1798. The legislature, styled the General Assembly, consists of two houses, a Senate and a House of Representatives, chosen annually. There is one Senator for each county, and the Representatives are apportioned according to the population, including three-fifths of the blacks. The Governor is chosen by the people for the term of two years, and the Superior Judges are elected by the General Assembly for a term of three years, removable, however, by the Governor on the address of the Assembly, or by impeachment; the inferior judges and justices of the peace are elected by the people. The right of suffrage belongs to all citizens of the age of 21 years, who have paid taxes for the year preceding the election.

The State has an academic fund, the proceeds of which are distributed annually among the academies; the sum thus divided in 1834 was 18,710 dollars, and there is a considerable number of respectable academies. There is also a poor school fund, the income of which is divided among the counties, according to their respective population, but no general system of common education has been established; 18,078 dollars were distributed for the instruction of the poor in 1834. There is a college at Athens, styled the University of Georgia. The

Baptists and Methodists are numerous, and the Episcopalians, Presbyterians, and Christians number many adherents. There are also some Roman Catholics, Friends, Lutherans, &c.

The State is divided into 90 counties; the population increased from 340,987 in 1820, to 516,823 in 1830; number of slaves at the former period 149,656, at the latter 217,531; there are but few free blacks.

Counties.	Population. Total.	Population. Slaves.
Appling	1,468	179
Baker	1,253	275
Baldwin	7,295	4,542
Bibb	7,154	2,988
Bryan	3,139	2,402
Bullock	2,587	650
Burke	11,833	6,642
Butts	4,944	1,683
Camden	4,578	3,086
Campbell	3,323	618
Carroll	3,419	487
Cass	formed since 1830	
Chatham	14,127	9,478
Cherokee	formed since 1830	
Clarke	10,176	4,709
Cobb	formed since 1830	
Columbia	12,606	8,032
Coweta	5,003	1,372
Crawford	5,313	1,718
Decatur	3,854	1,308
Dekalb	10,042	1,648
Dooly	2,135	336
Early	2,051	540
Effingham	2,924	1,212
Elbert	12,354	5,765
Emanuel	2,673	465
Fayette	5,504	1,187
Floyd	formed since 1830	
Forsyth	formed since 1830	
Franklin	10,107	2,370
Glynn	4,567	3,968
Greene	12,549	7,470
Gwinnett	13,289	2,332
Gylmer	formed since 1830	
Habersham	10,671	909
Hall	11,748	1,181
Hancock	11,820	7,130
Harris	5,105	2,269
Heard	formed since 1830	
Henry	10,566	2,571
Houston	7,360	2,194
Irwin	1,180	109
Jackson	9,004	2,783
Jasper	13,131	6,322
Jefferson	7,309	3,647
Jones	13,345	6,829
Laurens	5,589	2,375
Lee	1,680	311
Liberty	7,233	5,624
Lincoln	6,145	3,276
Lowndes	2,453	335
Lumpkin	formed since 1830	
Madison	4,646	1,259
Mackintosh	4,998	3,794
Marion	1,436	109
Meriwether	4,422	1,394
Monroe	16,202	7,353
Montgomery	1,269	335
Morgan	12,048	6,820
Murray	formed since 1830	
Muscogee	3,508	1,240
Newton	11,155	3,003
Oglethorpe	13,618	7,940
Paulding	formed since 1830	
Pike	6,149	1,773
Pulaski	4,906	1,765
Putnam	13,261	7,707
Rabun	2,176	59
Randolph	2,191	682
Richmond	11,643	6,246
Scriven	4,776	2,366
Stewart	formed since 1830	
Sumter	formed since 1830	
Talbot	5,940	2,099
Taliaferro	4,934	2,735
Tatnall	2,046	506
Telfair	2,136	565
Thomas	3,299	1,168
Troup	5,799	2,188
Twiggs	8,031	3,507
Upson	7,013	2,557
Union	formed since 1830	
Walker	formed since 1830	
Walton	10,929	3,163
Ware	1,205	61
Warren	10,946	4,693
Washington	9,820	3,909
Wayne	903	276
Wilkes	14,237	8,960
Wilkinson	6,513	1,922.

Population at Different Periods.

	Total.	Slaves.
1790	82,548	29,264
1800	162,101	59,404
1810	252,438	105,218
1820	340,987	149,656
1830	516,823	217,531.

The city of Savannah is advantageously situated for a commercial town, being accessible to large ships from the sea, and communicating with the interior by the noble river on which it stands. It is built on the southern side of the Savannah, on a high bank rising about 50 feet above the water, from which it makes a fine appearance, with its spacious and regular streets, and its handsome public buildings, mingling pleasantly with the groves of trees which surround them and adorn the squares and principal streets. The site was formerly unhealthy, on account of the surrounding swamps, but this evil has been cured by judicious drainings, and by the substitution of the dry for the wet culture of rice around the city. In 1820 it suffered so much from a terrible fire, that its prosperity received a temporary check, and the population (7423) was less in 1830 than it had been (7523) in 1820; but it has recovered from this shock, and is at present one of the most flourishing cities in the Southern States, its population having increased to 11,000 in 1835. Savannah is the chief commercial depôt in the State, and most of the cotton and rice, with large quantities of the other articles of exportation, pass through this port. In 1835 the exports included 250,000 bales of cotton and 24,000 casks of rice, and the whole value of merchandize shipped for exportation was 14,000,000 dollars; 20 steam-boats of a large class, and 50 steam tow-boats are employed on the river, and the shipping of the port amounts to 14,000 tons. Among the public buildings are ten churches, an exchange, city-hall, hospital, theatre, &c. About forty miles south of Savannah lies the little town of Sunbury, on Medway River, at the head of St. Catherine's Sound; there is a bar here, but the harbour is capacious and safe, and has water sufficient for ships of great burthen.

Darien is a neat and thriving little town, with an active trade in cotton, and in the lumber which is brought down the river in large quantities. It stands on a creek called Darien River, and is accessible to vessels of considerable burthen, either by the Alatamaha or by Doboy Inlet, a broad arm of the sea, which makes up into the land on the south of Sapelo Island. Its population is about 2500. Further south, on St. Simon's Island, is the village of Frederica, and on a broad stream called Turtle River, a few miles from St. Simon's Sound, is Brunswick, with a fine, spacious harbour. St. Mary's, a small town on the river of the same name, just above its entrance into Cumberland Sound, derives importance from its deep and commodious harbour, the most southerly on the coast from Georgia to Florida Point.

The city of Augusta, the great interior emporium of the State, stands on the Savannah, at the head of steam-boat navigation. It is regularly laid out in wide, straight streets, shaded with the Pride of India, and is handsomely built, containing a city-hall, seven churches, an hospital, arsenal, theatre, &c.; a bridge across the Savannah, 1200 feet long, connects it with Hamburg. The population amounted, in 1830, to 6696, but had increased to nearly 8000 in 1835. Augusta is the depôt of an extensive tract of productive and populous country, and is connected with the sea by the Charleston and Hamburg rail-road, and the Savannah river; 175,000 bales of cotton were brought into the city in 1835.

Milledgeville, the capital of the State, is pleasantly situated on the Oconee, at the head of steam-boat navigation, and is a place of some trade; the population in 1835 exceeded 2000 inhabitants. It contains the State-house, the Penitentiary, on the Auburn plan, &c. Athens, a thriving little town above Milledgeville, is the seat of the University of Georgia.

Macon, on the Ocmulgee, consisted in 1822 of a single cabin; in 1830 it had a population of 2600 souls, and at present the number of inhabitants is 3500. Its trade is extensive and growing, and there is a great number of saw and grist-mills in the vicinity; 80,000 bales of cotton were shipped from Macon in 1835, and 8 steam-boats were employed on the Ocmulgee, beside numerous tow-boats and pole-boats. A little to the northwest, is the thriving little town of Forsyth.

Columbus is situated on a level piece of ground about 60 feet above the bed of the Chattahoochee, just below the falls, and 430 miles from the sea. The banks of the river are here extremely beautiful, and the streets of the town are spacious and regular. The town was first laid out in 1828, when the site was yet covered with the native forest, and in 1835 it contained 4000 inhabitants, with a proper number of churches, newspapers, &c. Steam-boats run regularly from here to New Orleans, and 40,000 bales of cotton were shipped from the town in 1835, when there were no less than 12 steam-boats employed on the Chattahoochee. Dahlonega, in Lumpkin county, between the Chestatee and Etowa, is the seat of one of the offices of the United States Mint.

The great body of the Cherokee or Tsulakee Indians, who once possessed nearly the whole of Georgia, with a large part of Alabama and Tennessee, and a part of North Carolina, still remain in Georgia; but by a treaty made with the United States in 1836, they have agreed to cede their lands for the sum of 5,000,000 dollars, and remove to the Indian Territory west of Arkansas, where 6000 of the nation are already settled, and seven million acres of land are reserved for their use. The tract at present occupied by them lies beyond the Chestatee and Chattahoochee, and includes the southwestern angle of North Carolina, and the southeastern corner of Tennessee, east of the river of the name. The following description of their country and condition, is by one of the Cherokee nation:—

"The Cherokee Territory within the limits of North Carolina, Georgia, Tennessee, and Alabama, is estimated to contain ten millions of acres. It embraces a large portion of the finest lands to be found in any of the States, and enjoys a salubrity of climate unsurpassed by any; possessing superior advantages in reference to water-power, owing to the numerous rills, brooks, and rivers which flow from and through it: some of these streams afford good navigation, others are susceptible of being easily improved and made navigable. On the routes where roads have been opened by the Cherokees through this country, there must necessarily pass some of the most important public roads and other internal improvements, which at no distant day will be constructed. The entire country is covered with a dense forest of valuable timber, also abounding in inexhaustible quarries of marble and limestone. Above all, it possesses the most extensive region of the precious metals known in the United States. There are also extensive banks of iron ore interspersed through the country. Mineralogists, who have travelled over a portion of this territory, are fully persuaded, from what they have seen, that lead and silver mines will also be found in the mountain regions.

"Independent of all these natural advantages and invaluable resources, there are many extensive and valuable improvements made upon the lands by the native Cherokee inhabitants, and those adopted as Cherokee citizens by intermarriages. The Cherokee population has recently been reported by the War Department to be 18,000, according to a census taken by the agents appointed by the government. This people have become civilized, and have adopted the Christian religion. Their pursuits are pastoral and agricultural, and in some degree mechanical. The possessions of the Cherokee inhabitants consist of houses, which cost generally from fifty dollars, one hundred to one thousand dollars, and in many instances up to five thousand dollars; some few as high as six, eight, or ten thousand dollars, with corresponding out-buildings, consisting of kitchens, meat-houses, dairies, granaries or corn-cribs, barns, stables, &c., grist and saw-mills; connected with these are gardens for culinary vegetables; also peach and apple orchards; lots of enclosed ground for horses, black cattle, &c. The farms of the Cherokees contain from ten, twenty, thirty, forty, fifty, sixty to one hundred and fifty and two hundred acres of land under cultivation, and enclosed with good rail-fences. Among the most wealthy, there are farms of three and four hundred acres, and in one instance, perhaps about eight hundred acres in cultivation. There are many valuable public ferries also owned by the Cherokees: the incomes of some of them amount to from five hundred to one thousand, fifteen hundred, and two thousand dollars per annum. Several public roads, opened at private expense, were also kept up by companies under regulations of the National Council, and toll-gates erected on them."

The Cherokees have established a regular system of government; the executive authority is vested in a Principal and Assistant Chief, and three Counsellors, chosen by the legislature for the term of four years. The latter, styled the General Council, consists of two houses, a National Committee of 16 members, and a National Council of 24, both of which are chosen by the people for the term of two years. In 1824 there were belonging to them 22,531 head of black cattle, 7683 horses, 46,732 swine, 2566 sheep, 2923 ploughs, 49 saw and grist-mills, 762 looms, 2486 spinning-wheels, &c. In 1830 they had about 1200 negro slaves, and there were 500 children in the schools. A newspaper is conducted and printed by natives in Cherokee and English and in the Cherokee character, which was invented by Guest, one of the Nation. The alphabet is syllabic, and consists of 85 characters, representing all the elementary sounds of the language.

Bartram mentions several remarkable works in Georgia, resembling those found in the Western States, and like those, of unknown origin; but we are not aware that any accurate examination has been made of these monuments of its former inhabitants. Between the Savannah and Broad River, a regular conical mound about 40 or 50 feet high, with a base of about 200 or 300 yards in circumference, surrounded by numerous smaller cones, and by large square terraces, from 4 to 10 feet high, and about 100 yards in length, was visited by that traveller, whose account of it is, however, far from being sufficiently minute to enable us to form any opinion as to the object of these works; he says that they stand on a spot subject to inundations, and that they are composed of the prevailing soil. Similar conical mounds and terraces, apparently in similar situations, were met with on Little River, a tributary of the Savannah; in the Keowe Valley, on the North Carolina side of the river; and on the Ocmulgee, about 70 miles above its confluence with the Oconee. The lands surrounding these works bore marks of having been formerly under cultivation, and were called by the inhabitants the Old Fields.

5. *Territory of Florida.*

The first discoverers of Florida were allured to its shores by stories of its fountain of youth and its mysterious riches; and charmed by the brilliant hues and lively verdure of its majestic forests and gorgeous shrubs, they called it the Land of Flowers. The mariner approaches with dread its sunken shoals, its dangerous reefs, its baffling currents and intricate channels, and associates with its name the hateful idea of wrecks and wreckers. The explorer, who plunges into its labyrinths of swamps, hummocks, ponds, and jungles, pronounces it the fit haunt of alligators and snakes, a chaotic medley of land and water, producing its 40 or 50 bushels of frogs to the acre. Let us examine it for ourselves. The Territory of Florida consists of a long, narrow strip on the northern shore of the Gulf of Mexico, extending from the Perdido river to the Atlantic ocean, and of a vast peninsula, 350 miles in length by 150 in breadth, separating the Mexican Gulf from the Atlantic Ocean. It lies between 25° and 31° N. lat., and between 80° and 87° 44′ W. lon., with an area of about 55,000 square miles.

The southern part of the peninsula, from about 28° lat., is an extensive marsh, which, during the rainy seasons, between June and October, effectually prevents an overland passage from one shore to the other. North of this tract to Georgia, the surface of the country is generally a dead level, but in some parts it is slightly undulating, and even presents some eminences worthy the name of hills; the face of the country west of the neck of the peninsula is somewhat more uneven, but it contains no considerable elevations. The great southern marsh contains numerous tracts of pine land, prairies, and hummocks, and the more northern part of the peninsula consists chiefly of pine forests interspersed with hummocks, prairies, and marshes. The soil is generally sand, except in the hummocks, in which it is clay mixed with sand; these are scattered throughout the country, and vary in extent from a few acres to a thousand, forming altogether but an inconsiderable portion of the peninsula; they are covered with a growth of red, live, and water-oak, dog-wood, magnolia, and pine, and afford excellent arable land. The prairies, or savannahs as they are here called, are sometimes pretty extensive, extending for several miles in length and breadth, and forming fine natural pastures. The pine barrens are overgrown with forests of pine, with little underwood, and though the soil is generally poor, it is sometimes productive. The swamps or morasses are either formed by the inundation of the rivers, which, overflowing the high wooded ridge that forms their bank, cover the low lands in the rear with water, or they are produced by the drainage of the surrounding country; the latter or pine barren swamps are overgrown with cypress and cypress knees, and the former or river swamps are covered with a heavy growth of timber.

The substratum of the eastern part of the peninsula is clay mixed with sand, but that of the western is a kind of rotten limestone, which, in many places, is undermined by subterraneous streams, forming numerous cavities in the ground called sinks; these sinks are inverted conical hollows varying in size from a few yards to several acres, at the bottom of which running water often appears. The central district of Florida is the most productive and populous part of the Territory; a large proportion even of this district is composed of poor pine barrens, but in the midst of these are found gentle eminences of fertile land supporting a vigorous growth of oaks and hickories, while numerous rivulets of pure water flow through the country or expand into beautiful lakes. Further west the land is more generally poor. Thus it appears that but a small proportion of Florida can be said to be fertile; yet the warmth and humidity of the climate compensate in a great measure for the poverty of the soil, and give it a vegetation of great variety and luxuriance.

The rivers of Florida are numerous, and they afford valuable navigable channels. The St. John's rises in the great southern marsh, and reaches the ocean after a course of about 200 miles; for nearly 100 miles from its mouth it forms a wide, sluggish sheet of water more resembling a lagoon than a river, and it is navigable to Lake George, a little higher up, for vessels drawing 8 feet of water. Indian River is a long lagoon having much the same character, and communicating with the ocean by Indian River Inlet. Charlotte and Amaxura are the principal rivers on the western side of the peninsula, the whole of which south of the St. John's and Suwanee contains only small streams. The Suwanee is formed by the junction of the Withlacoochee, and Little St. Johns from Georgia, and reaches the Gulf at Vacasasa Bay; its bar has only 5½ feet of water at high tide. The Ocloconee also rises in Georgia, and flows into Appalachee Bay. The Appalachicola, formed on the frontier of Florida, by the junction of the Chattahoochee and Flint Rivers, falls into the bay of the same name, after a course of 75 miles. It is navigable for steam-boats through its whole length. The Choctawhatchee, rising in Alabama, reaches the bay of its name. The Escambia flows into Pensacola Bay.

Several singular phenomena are caused by the nature of the rock before alluded to as underlying the soil of a portion of the Territory. One of these is the great number of sinks or wells which are met with; Bartram thus describes the Great Sink in the Alachua Savannah. "In this place a group of hills almost surround a large basin, which is the general receptacle of the water draining from every part of the savannah, by lateral conduits, winding about, and one after another joining the main creek or general conductor, which at length delivers them into this sink; where they descend by slow degrees, through rocky caverns, into the bowels of the earth, whence they are carried by secret subterraneous channels into other receptacles and basins. There are three great doors or vent-holes through the rocks in the sink, two near the centre and the other one near the rim, much higher up than the other two, which was conspicuous through the clear water. The beds of rocks lay in horizontal thick strata or laminæ, one over the other, where the sink-holes or outlets are." The sink was full of large alligators, which devoured the crowds of fish, that, on the drying up of the waters of the savannah in summer, rush into its basin, and disappear through the holes in the rocks. Connected with the same rock formation, is the bursting forth of numerous springs from the ground, so copiously as to form at once full-grown rivers; as, indeed, they rather seem to be eruptions of subterraneous streams, suddenly emerging from the dark labyrinths through which they have long crept beneath the surface. The remarkable transparency of the water in many of the rivers and lakes, has also been observed by travellers, who describe it as so pellucid that the boat appears to be floating in the air.

Florida has a sea-coast of 1000 miles, but so much of it is rendered inaccessible by soundings that it has few good harbours. West of Cape San Blas the shore is bold, but east of that point it begins to shallow; from Appalachee Bay to Tampa Bay, the whole coast sends off shallow banks, and from Vacasasa Bay to the Amaxura, there is but 6 or 7 feet of water 6 miles from shore; to the south of Carlos Bay the shores are bolder. On the eastern side there is no harbour south of St. Augustine, and scarcely an inlet breaks the long line of coast from that point to Cape Florida.

South from the mainland a chain of small rocky islands called Keys, from the Spanish Cayo, extends to the westward, ending in a little cluster of rocks and sand-banks, called the Tortugas or Dry Tortugas. South of the bank upon which the keys rise, and separated from them by a navigable channel, is a long, narrow, coral reef, known as the Florida Reef. The most important of the keys, is Key West, a nautical corruption or free translation of Cayo Hueso (Bone Key), also called Thompson's Island. Long the haunt of wreckers, smugglers, and pirates, it has received a small permanent population since it came into the possession of the United States. It is 6 miles in length by 2 in breadth with a large, well-sheltered, and commodious harbour, which admits the largest vessels; the salt-ponds of the island have of late yielded a considerable quantity of salt. The Tortugas derive their name from the immense number of turtles which visit them, and the adjacent keys and mainland, for the purpose of depositing their eggs. There are four sorts of turtle found here; the Green Turtle, so well known to epicures, enters the bay and rivers of the islands and mainland in April and deposits her eggs in May, and a second time in June; the Hawkbilled, whose shell is so valuable in commerce, appears rather later, and also makes two deposits, one in July, and another in August; this species is found only in the sea-islands; the Loggerhead and Trunk Turtle, also, make their appearance at about the same time. When about to deposit her eggs, the turtle commences operations by digging a hole in the sand, with her hind flappers. "The sand is raised alternately with each flapper, as with a long ladle, until it has accumulated behind her, when supporting herself with her head and fore-part, on the ground fronting her body, she, with a spring from each flapper, sends the sand around her, scattering it to the distance of several feet. In this manner the hole is dug to the depth of eighteen inches, or sometimes more than two feet. This labour I have seen performed in the short period of nine minutes. The eggs are then dropped one by one, and disposed in regular layers, to the number of 150, or sometimes nearly 200. The whole time spent in this operation may be 20 minutes. She now scrapes the loose sand back over the eggs, and so levels and smooths the surface, that few persons on seeing the spot could imagine any thing had been done to it. This accomplished to her mind, she retreats to the water with all possible despatch, leaving the hatching of the eggs to the heat of the sand. The young soon after being hatched, and when yet scarcely larger than a dollar, scratch their way through the sandy covering, and immediately betake themselves to the water." (*Audubon, Birds of America*). A vast quantity of the eggs and large numbers of the turtles are taken by the turtlers, who drive a lucrative trade in them.

One of the most valuable productions of Florida is the live-oak, which yields a most durable timber. In felling the timber for the market, "such hummocks as are found near navigable streams are first chosen; and when it is absolutely necessary, the timber is sometimes hauled five or six miles to the nearest water-course, where although it sinks, it can with comparative ease be shipped to its destination. The best time for cutting the live-oak is considered to be from the first of December to the beginning of March, or while the sap is completely down. When the sap is flowing the tree is bloom, and more apt to be shaken. The white-rot, which occurs so frequently in the live-oak and is perceptible only by the best judges, consists of round spots, about an inch and a half in diameter, on the outside of the bark, through which, at that spot, a hard stick may be driven several inches, and generally follows the heart up or down the trunk of the tree. So deceptive are these spots and trees to persons unacquainted with this defect, that thousands of trees are cut and afterwards abandoned. The great number of trees of this sort strown in the woods, would tend to make a stranger believe that there is much more good oak in the country than there really is; and, perhaps, not more than one-fourth of the quantity usually reported, is to be procured." (*Audubon, Birds of America*).

Cedar logs, boards, staves, hides, tallow, and bees'-wax, are also exported. The fig, pomegranate, orange, and date, are among the fruits; cotton is the chief agricultural staple, the annual crop being about 60,000 bales; the sugar-cane is also pretty extensively cultivated; rice is raised in large quantities; and indigo formerly furnished a valuable article of exportation, but is now only raised for family use. But Florida is on the whole better suited for a grazing country; and its vast herds of cattle, horses, swine, &c., find a boundless extent of range in its fine pastures.

Florida was first visited, in 1512, by Ponce de Leon, in search of the fountain of youth; having reached its shores on Easter-day, called by the Spaniards Pascua Florida, he gave it the name which it still bears. The celebrated expeditions of Pamphilo de Narvaez, in 1526, and Ferdinand de Soto, in 1539, to this fabled El Dorado of the north, are well known. St. Augustine was founded in 1565, when the first permanent colony was planted in Florida. The name was for a long time applied to an indefinite extent of country, but it was gradually contracted to its present limits by the encroachments of the English colonies on the north. In 1763, Florida was ceded to Great Britain, but it was restored to Spain by the peace of Paris in 1783, and by that power was transferred to the United States in 1820. Most of the former inhabitants quitted the country on this last change of masters, but some of the poorer Spanish planters and fishermen, and a body of Greeks and Minorcans, who had been brought out as redemptioners, remained, and there has subsequently been a considerable immigration from the neighbouring States, chiefly into the middle section of the country. In 1830, the population amounted to 34,730, of which 15,501 were slaves, distributed as follows:

	Counties.	Population.	
Western Florida	Escambia	3,386	
	Walton	6,092	
	Washington		
	Jackson		
	Franklin		
		Total	9,478
Middle Florida	Gadsden	4,895	
	Leon	6,494	
	Jefferson	3,312	
	Madison	525	
	Hamilton	553	
		Total	15,779
Eastern Florida	Alachua	2,204	
	Duval	1,970	
	Nassau	1,511	
	St. John's	2,538	
	Mosquito	733	
	Columbia	formed subsequently	
		Total	8,956
Southern Florida	Monroe	517	
		Total	517

St. Augustine, the oldest town in the United States, stands at the junction of two small creeks, called the Matanzas and the North River. The former is an arm of the sea, separating Anastatia Island from the main land, and affords an inland passage to the town for vessels of light draft; the main inlet has only 8 feet of water at high tide, but the channel within carries from 18 to 20 feet. St. Augustine is regularly built, but the streets are narrow; the houses are generally two stories high, surrounded with balconies and piazzas, and built of a shell-stone, or a concretion of shells and sand. Many of them are deserted and in ruins, the population of the place having been reduced from between 4000 and 5000 to about 2000, mostly Spaniards, Minorcans, and negroes. The nunnery, now used as barracks, is an imposing structure in the Spanish style; there is a monument 30 or 40 feet high in the public square, commemorative of the Spanish Constitution; and the Castle of St. Mark's is a massive and noble work, completed in 1716. Although the country is poor, yet there are fine gardens in and around the town; the beautiful orange groves, which ornamented the neighbourhood and were very profitable to their owners, were mostly destroyed by the late severe cold. To the south of St. Augustine is New Smyrna, once occupied by the Minorcan and Greek colony, but now deserted; it is accessible only to boats and launches. To the north, on Amelia Island, is the little village of Fernandina, during the embargo and late war an important depôt.

Jacksonville, on the St. John's, is a flourishing town, forming the depôt of the trade of the surrounding country; it is also a considerable thoroughfare, and the projected East Florida Rail-road is to run from this point to St. Marks. Above Jacksonville is the village of Picolata, containing an old Spanish fortress, with a lofty tower, constructed of testaceous stone from Anastatia Island. In the middle section of the Territory, are St. Marks, Tallahassee, Quincy, Marianna, Monticello, and Appalachicola. St. Marks is the shipping port of a populous and productive district, and is a growing town, with a good harbour; the entrance affords 12 feet of water, but up to the town, 8 miles from the sea, the bay carries only 9 feet. A rail-road connects St. Marks with the capital; Tallahassee, 21 miles. Tallahassee stands on an eminence in a fertile district, and contains the Capitol, several churches and banks, with about 1200 inhabitants. Appalachicola is a flourishing little town, at the mouth of the river of the same name, just above St. George's Sound, a capacious basin, affording good anchorage, sheltered by Vincent, St. George's, and Dog Islands, between which there are several channels, with from 14 to 16 feet of water. About 50,000 bales of cotton were exported from Appalachicola during the year 1835.

St. Joseph's, on the bay of the same name, is also a place of growing trade; the bay affords 25 to 33 feet of water, and is well sheltered from all winds. A rail-road from St. Joseph's to the little lake or lagoon of Wimico, connects the town with the River Appalachicola. Pensacola, on the bay of the same name, is important as a naval station of the United States; it is accessible to small vessels through Santa Rosa Sound, a long, shallow lagoon, sheltered by the Island of Santa Rosa, which also fronts the Bay of Pensacola, and through the main channel to ships of war, up to the Navy-Yard, about six miles below the town. The population of Pensacola is about 2000.

There are about 3000 Indians in the peninsula in addition to the population as above stated. They are known under the name of Seminoles, but they belong to the Muscogee or Creek Nation, from whom, however, they have long been politically separated. Gradually driven back from their original hunting-grounds to the great morass of the South, they were induced to enter into a treaty to abandon the Territory and remove to the west. Preparations were made for their removal in 1835, but they showed great reluctance to go, and finally commenced open hostilities under an able chief, named Oseola.

6. *State of Alabama.*

The State of Alabama forms a pretty regular parallelogram, lying between Georgia and Mississippi, and extending from 31° to 35° N. lat., and from 85° 10′ to 88° 31′ W. lon.; a narrow strip, however, extends south beyond the main body of the State to the Gulf of Mexico, between Florida and Mississippi, reaching the latitude of about 30° 15′. Its length from north to south, excluding the neck above mentioned, is 280 miles; its general breadth varies from about 140 miles in the north, to above 200 in the south, and its superficial area is about 52,000 square miles.

The northern part of the State is mountainous, the prolongation of the Blue Ridge traversing it from east to west; but the range nowhere presents any considerable elevation. South of this the surface has a general declivity towards the south, and forms a vast plain, scarcely broken except by gentle swells; and the more southern portion is a dead level, but little above the surface of the sea. The southern half of the State consists of extensive prairies, and pine-barrens, interspersed with alluvial river bottoms of great fertility. There are large bodies of good land in the central section of the State, and the northern has a productive soil. The cane brakes of the southern part are remarkable for their high and dense growth of canes, and when cleared afford valuable cotton lands.

The sugar-cane has been found to succeed very well in the extreme southern strip, between Florida and Mississippi, and indigo was formerly raised in considerable quantities; rice also grows well on the alluvial bottoms near the Gulf; but cotton, which thrives throughout the State, is the great agricultural staple. The cotton crop at present exceeds 350,000 bales. There are extensive beds of bituminous coal and iron ore in the central part of the State, both of which are of excellent quality, and several forges are in operation on the Cahawba. Gold is found in the northern section, and good marble has been obtained from the central tract; but the mineral resources of Alabama have never been carefully explored. The value of the exports from Alabama in 1834 was 5,664,047 dollars.

With the exception of the Tennessee, which takes a circular sweep through Upper Alabama, but receives no considerable tributary on its southern side within the limits of the State, all the rivers flow into the Gulf of Mexico. Nearly the whole surface is, indeed, drained into one single channel, the Mobile River, which, by several large arms, gathers up the waters of the whole southern slope, except those of a comparatively small tract in the southeast. The Chattahoochee, although a large stream, and washing the border for several hundred miles, receives only a few inconsiderable streams from this State. The Choctawhatchee, Conecuh, and Perdido, are, in point of size, secondary rivers. The Mobile, the great river of Alabama, is formed by the junction of two large rivers, the Alabama and Tombeckbee, 50 miles above Mobile Bay; a few miles below the junction it gives out a large branch called the Tensaw, which receives also an arm from the Alabama, and reaches Mobile Bay at Blakely. The Tombeckbee, or western branch of the Mobile, is formed by the confluence of two large streams, the Tombeckbee proper, from Mississippi, and the Black Warrior, from Northern Alabama; it admits vessels drawing 5 or 6 feet of water to St. Stephens, 93 miles from the Bay, and steam-boats to Tuscaloosa, 285 miles, and to Columbus, Mississippi. The length of this river by its tortuous channel is about 300 miles. The Alabama, or Western Branch, is navigable for vessels of 5 or 6 feet draft to Claiborne, 100 miles, and for steam-boats to Montgomery, 300 miles by the course of the river, and even to Wetumpka on the Coosa, several miles above. It is formed by the junction of the Coosa and Tallapoosa, which rise in Georgia. The navigation of these rivers is, however, interrupted during the season of low water in the summer months. The principal tributary of the Alabama is the Cahawba, which has a course of about 150 miles.

Alabama has a sea-coast of only 60 miles, which, however, contains Mobile Bay, one of the deepest basins on the Gulf. It is about 30 miles long, and from 3 to 18 broad, and the main entrance has 15 feet of water at low tide; but vessels drawing more than 8 or 9 feet cannot approach nearer than 11 miles from the town except at high water. Small vessels may go to New Orleans by an inland channel, through Pascagoula Sound, a long, shallow lagoon, lying between a range of low sand islands and the mainland.

Several useful works have already been constructed, or are in active progress in this youthful State. The Tuscumbia and Decatur Rail-road extends round the Muscle Shoals of the Tennessee River, 45 miles. And there is also a canal, 60 feet wide and 6 feet deep, surmounting the same obstruction. The Florida and Georgia Rail-road, from Pensacola to Columbus, 210 miles; the Montgomery and Chattahoochee Rail-road, from Montgomery to West Point, Georgia, 85 miles, and the Wetumpka and Coosa Rail-road, are in progress. The connexion of these works with the valley of the Tennessee is also contemplated.

The growth of Alabama has been extremely rapid, there having been a constant tide of immigration, chiefly of planters with their slaves, from the Atlantic States. In 1810 the population did not amount to 10,000; in 1820 it was 127,901, and in 1830 it was 309,527, including 117,549 slaves. As the high price of cotton, and the bringing into the market of extensive tracts of Indian lands, have contributed to keep up immigration into Alabama, its population may be estimated to have exceeded 400,000 in 1835.

Alabama was comprised within the limits of Georgia, until 1802, when that State ceded her lands west of the Chattahoochee to the United States; and in 1817 Alabama was separated from Mississippi, and formed into a district Territory. In 1820 it was admitted into the Union as an independent State. The legislature, styled the General Assembly, consists of two houses, a Senate chosen for the term of three years, and a House of Representatives for one year. The Governor, who holds office for the term of two years, and the General Assembly, are chosen by the people, every white male citizen who has resided within the State one year being entitled to vote. The Judges are elected by the General Assembly for the term of six years.

The constitution enjoins it upon the General Assembly to encourage schools and the means of education within the State; and by act of Congress in 1819, one section of 640 acres of the Public Lands, in each township, was reserved for the support of common schools in the township; two entire townships, or 46,080 acres, were also granted to the State for the support of a seminary of learning, the proceeds of which have been appropriated to the endowment of the University of Alabama, in Tuscaloosa. Lagrange College, at New Tuscaloosa, on the Tennessee, and Spring Hill College, near Mobile, are also useful institutions, and there are numerous academies in the State. The Methodists, Baptists, and Presbyterians are the prevailing sects, and there are some Episcopalians and Roman Catholics.

Alabama is divided into 46 counties, as follows:—

Counties.	Population.	
	Total.	Slaves.
Autauga	11,874	5,990
Baldwin	2,324	1,263
Barbour	formed since 1830	
Benton	formed since 1830	
Bibb	6,306	1,192
Blount	4,233	4,111
Butler	5,650	1,739
Chambers	formed since 1830	
Clarke	7,595	3,672
Conecuh	7,444	3,620
Coosa	formed since 1830	
Covington	1,522	896
Dale	2,031	269
Dallas	14,017	7,160
Fayette	3,347	512
Franklin	11,078	9,082
Greene	15,026	7,420
Henry	4,020	1,009
Jackson	12,700	1,264
Jefferson	6,855	1,715
Lauderdale	11,771	10,263
Lawrence	14,984	6,556
Limestone	14,807	6,689
Lowndes	9,410	4,388
Macon	formed since 1830	
Madison	27,990	13,627
Marengo	7,700	3,138
Marion	4,058	600
Mobile	6,267	2,281
Montgomery	12,695	6,450
Monroe	8,782	3,541
Morgan	9,062	2,894
Perry	11,490	4,318
Pickens	6,622	1,631
Pike	7,108	1,878
Randolph	formed since 1830	
Russell	formed since 1830	
Sumter	formed since 1830	
St. Clair	5,975	1,154
Shelby	5,704	1,139
Talladega	formed since 1830	
Tallapoosa	formed since 1830	
Tuscaloosa	13,646	4,793
Walker	2,202	168
Washington	3,474	1,532
Wilcox	9,548	3,990

The city of Mobile is a flourishing commercial town, being the depôt for nearly the whole State of Alabama and part of Georgia and Mississippi; it is built on a dry and elevated spot, but was formerly rendered unhealthy by the surrounding marshes; these, however, have been drained, and the streets have been paved with shells, and of late years Mobile has not suffered from diseases. The harbour is good, and numerous steam-boats run on the river and to New Orleans. The annual export of cotton from the port is about 250,000 bales. The population in 1830 was 3194; in 1835 it was estimated to exceed 6000. Blakely, on the opposite side of the bay, on a high, open, and healthy site, with deeper water and a harbour easier of access than that of Mobile, has not thriven in the same manner, and is only a little village.

St. Stephens on the Tombeckbee, and Claiborne and Cahawba on the Alabama, are flourishing little towns. Montgomery, near the head of the Alabama, is a busy, growing place, with about 2000 inhabitants. Wetumpka, on the Coosa, at the head of steam-boat navigation, was *cut out* of the forest in 1832, and in 1835 it was a place of considerable business, with 1200 inhabitants.

Tuscaloosa, the capital, stands in a rich district, on a fine site, near the centre of the State, on the Black Warrior River, and being accessible to steam-boats is a place of considerable trade; it contains the State-house, the halls of the University, the county buildings, &c. The population of the town is about 2000.

Florence, below Muscle Shoals, at the head of steam-boat navigation on the Tennessee, is a growing place of about 2000 inhabitants, with a prosperous and increasing trade. Tuscumbia, opposite to Florence, is also a thriving town. Above the Shoals, and about ten miles north of the river, is Huntsville, situated in a very fertile and beautiful region, with about 2500 inhabitants.

There are at present about 20,000 Creek Indians, or Muscogees, in the eastern part of the State, between the Coosa and Chattahoochee; a portion of them have, however, been recently removed to the Western Territory, and arrangements have been made for the emigration of the remainder. Although this people is not, in general, so much advanced in civilization as the Cherokees, yet many individuals among them have made some progress in the arts of peace, and possess cattle, raise cotton, and have good houses.

7. *State of Mississippi.*

The State of Mississippi, like Alabama, has nearly the figure of a parallelogram, gradually widening, however, from north to south, and projecting, like Alabama, a narrow strip of about 70 miles long by 50 in width, south of the main body of the State to the Mexican Gulf. Independently of this latter tract, it lies between 31° and 35° N. lat., and between 88° 15′ and 91° 40′ W. lon. In the north the width is 110 miles, and it expands pretty regularly to 180 miles in the south; length of the parallelogram, 280 miles; greatest length, 335 miles. Mississippi is bounded north by Tennessee, east by Alabama, south by the Gulf of Mexico and Louisiana, and west by the river Mississippi, separating it from Louisiana and Arkansas.

The surface in general slopes to the southwest and to the south, as appears by the course of the rivers; but a small section sends off its waters to the southeast and north. There are no mountains within the limits of the State, but numerous ranges of hills of moderate elevation, give to a greater part of the surface an undulating and diversified character; some of these eminences terminate abruptly upon a level plain, or upon the banks of a river, and bear the name of bluffs, or river hills. The western border, on the Mississippi, is an extensive region of swamps; and between the Mississippi and the Yazoo there is a tract of 170 miles in length by 50 in breadth, with an area of nearly 7000 square miles, annually overflowed. "The broad and extensive low grounds or flats between Memphis and Vicksburg, are subject to frequent inundations to the depth of many feet, and a width of from 10 to 20, and even occasionally 30 miles. Much of the surface is occupied by swamps, morasses, lagoons, slashes, &c., through which the Yazoo river has its course; the whole of which, from the junction of the Cold-water and Tallahatchee rivers, lies between this valley region. From the circumstances already detailed, this extensive tract has been denominated by some the Mississippi, and by others the Yazoo Swamp. During the prevalence of high floods it assumes the character of a marine forest, rather than that of a woodland bottom."

The southeastern counties are low, but of an undulating surface; and on the shore of this State, the coast of the Gulf of Mexico, which further west is marshy, first begins to appear solid, dry, and covered with pines. There are extensive tracts of pine-lands, in which the soil is light, but not unproductive, and a large proportion of the soil is fertile.

Mississippi is well watered, containing a great number of clear and running streams, and several navigable rivers, which intersect nearly every part of the State. The Tennessee laves the northeastern corner, and the Tombeckbee, which rises in this section, has been navigated by steam-boats to Columbus. The Mississippi washes the whole western border for a distance, by the circuitous course of its channel, of 600 miles, but in a straight line, of only about half that space. From Memphis, just above the northern frontier of Mississippi, to Vicksburg, a distance of 450 miles by the windings of the stream, the upland or river hills are separated from the river by inundated bottoms of greater or less width, and afford no site suitable for a port; below Vicksburg, the first point eligible for mercantile operations on a considerable scale, is Natchez, 100 miles down the river; and below this point there is no bank of much magnitude above the reach of high water, till you come to Baton Rouge, in Louisiana, 150 miles from Natchez. The Mississippi, however, receives several considerable rivers from the most valuable part of the State. The Yazoo is formed by the junction of the Yalobusha and Tallahatchie, which rise in the northern part of the State near the head-waters of the Tombeckbee, and flows into the Mississippi, after a course of 200 miles; it is navigable for some distance by boats; it receives several outlets from the Mississippi, which, during the times of floods, carry off some of the surplus waters of that great stream. The Big Black River is navigated by steam-boats to the distance of about 50 miles from its mouth. The Bayou Pierre and Homochitto are the other principal tributaries of the Mississippi from this State. The other rivers have a southerly course into the Gulf of Mexico and the lagoons connected with it. The Amite has but a small part of its course in this State. The Pearl River rises in the centre of the State, and flows through a fertile and populous region into the Rigolets, or outlet of Lake Pontchartrain. Steam-boats have been up to Jackson. The Pascagoula, formed by the junction of the Chickasawhay and the Leaf Rivers, also affords steam-boat navigation for some distance.

Tobacco and indigo were formerly the staples of Mississippi, but cotton, at present, is the chief production of the State, and it absorbs nearly all the industry of the inhabitants, to the exclusion even of corn and cattle. The crop is about 300,000 bales. Some sugar is produced in the southern strip, but the cane does not appear to thrive. Some works of magnitude have already been undertaken for facilitating the transportation of the bulky staple of the State. The Mississippi Rail-road, which is to extend from Natchez, through Jackson, to Canton in Madison county, a distance of 150 miles, is in progress. The Woodville and St. Francisville Rail-road, from Woodville to the Mississippi in Louisiana, 30 miles, is completed. The Port Gibson and Grand Gulf Rail-road, 8 miles long, connects the former place with the Mississippi. The Vicksburg Rail-road, from that town to Clinton, 35 miles, is also in progress. The Jackson and Brandon Rail-road is 8 miles in length.

This section of the country early formed a part of French Louisiana, and in 1716, Fort Rosalie was erected at Natchez. In 1763, it was ceded to Great Britain, and in 1783 was claimed by Spain as part of Florida; in 1798, that power relinquished it to the United States, and in 1801, the western part of Georgia, comprising the present States of Alabama and Mississippi, was formed into a Territory. In 1817, the latter was admitted into the Union as an independent State, and the constitution, which was then formed, was revised and amended in 1832. The legislative houses, styled the Legislature of Mississippi, consist of a Senate, chosen for the term of four years, and a House of Representatives, for two years; the Governor is elected for a term of two years; the superior judges for six years, and inferior judges for shorter terms. All these legislators and magistrates are chosen by the people; suffrage is universal. The legislature meets once in two years. The same provision was made by Congress for the support of schools in this State, as was made in Alabama; and the State has also a small literary fund, which is devoted to the same purpose. There are in the State several academies and three colleges, Jefferson College at Washington, Mississippi College at Clinton, and Oakland College at Oakland.

The population of Mississippi has increased with astonishing rapidity. In 1810, the population of the Territory of Mississippi, which included the present State of that name and Alabama, was 40,352; in 1820, the State of Mississippi contained 75,448 inhabitants, and in 1830, 136,621, of whom 65,651 were slaves. Since that period the Indian title to a great quantity of land has been extinguished, and the land brought into the market; in the year 1834 the sale of the Public Lands amounted to 1,064,054 acres, and in 1835 to double that quantity; the immigration during these years has been active and uninterrupted, and it was estimated, in 1835, that the population of the State exceeded 325,000 souls.

Mississippi is divided into 56 counties, as follows:

Counties.	Population.		Counties.	Population	
	Total.	Slaves.		Total.	Slaves.
Adams	14,937	10,942	Covington	2,551	700
Amite	7,934	4,089	De Soto	formed in 1836	
Attala	formed since 1830		Franklin	4,622	2,207
Bolivar	formed in 1836		Greene	1,854	538
Carroll	formed since 1830		Hancock	1,962	553
Chickasaw	formed in 1836		Hinds	8,645	3,212
Choctaw	formed since 1830		Holmes	formed since 1830	
Clark	formed since 1830		Itawamba	formed in 1836	
Claiborne	9,787	6,165	Jasper	formed since 1830	
Copiah	7,001	1,754	Jackson	1,792	400

Counties.	Population.	
	Total.	Slaves.
Jefferson	9,755	6,710
Jones	1,471	161
Kemper	formed since 1830	
Koahomo	formed in 1836	
Lafayette	formed in 1836	
Lauderdale	formed since 1830	
Lawrence	5,293	1,807
Lowndes	3,173	1,064
Leake	formed since 1830	
Madison	4,973	2,167
Marion	3,691	1,715
Marshall	formed in 1836	
Monroe	3,861	943
Neshoba	formed since 1830	
Newton	formed in 1836	
Noxabee	formed since 1830	
Oktibeeha	formed since 1830	
Perry	2,300	820
Pike	5,402	1,602
Ponola	formed in 1836	
Pontolock	formed in 1836	
Rankin	2,083	386
Simpson	2,680	640
Scott	formed since 1830	
Smith	formed since 1830	
Tallahatchie	formed since 1830	
Tippah	formed in 1836	
Tishomingo	formed in 1836	
Tunica	formed in 1836	
Warren	7,861	4,483
Washington	1,966	1,184
Wayne	2,781	1,076
Wilkinson	11,686	7,861
Winston	formed since 1830	
Yalobasha	formed since 1830	
Yazoo	6,550	2,470

Mississippi has a sea-coast of only about 70 miles, and there has been no attempt to create a depôt here. A chain of low islands extends along the front of the coast, enclosing a shallow lagoon, called Pascagoula Bay, about 7 miles wide, and 65 miles long, which is navigable for small vessels. It is separated by a number of keys, between which there are navigable channels, from Lake Borgne; between these keys vessels drawing 8 feet water can reach St. Louis Bay, from the sea.

In the region watered by the Pearl River, the principal towns are Columbia, Monticello, and Jackson, small but thriving villages, surrounded by fine plantations in a fertile tract. Jackson is the capital of the State, and is finely situated in a plain about a half mile square, on which stand the State-House, the Penitentiary, and some other public buildings. It contains about 1000 inhabitants.

Woodville, in the southwestern part of the State, 18 miles from the Mississippi, is a very pretty, and growing village with 1000 inhabitants. The little village of Fort Adams is considered as its port on the Mississippi, but Woodville is now connected with the river at St. Francisville by a rail-road.

Fifty miles above is Natchez, the largest and most important town in the State. It consists of two distinct parts; the lower town, called Natchez under the Hill or the Landing, is built on a dead level on the margin of the river, about half a mile in length, and from 100 to 200 yards in breadth, and is occupied by warehouses, tippling-shops, boarding-houses for the boatmen, &c.; the upper town stands on a lofty bank or bluff, rising abruptly to the height of 300 feet, and is the residence of the better class of citizens. The streets are wide, regularly disposed, and adorned with fine shade-trees, while many of the houses are embosomed in groves of the orange, palmetto, and other trees, and ornamental shrubs. In front of the city, about 100 yards in width, is a fine green esplanade, occupying the edge of the bluff, and commanding an extensive and striking view of the river, the rich and beautiful country in the rear, and the wide, dismal swamp on the western side of the Mississippi. This place has been occasionally visited by the yellow fever and other diseases, but it is during the greater part of the year an agreeable and healthful residence, and seems of late years to have lost its character for insalubrity. Natchez is 285 miles above New Orleans, yet it carries on a considerable direct trade with foreign countries, and large ships come up to the town. Its river and inland trade is, however, more extensive. In 1835, 35,000 bales of cotton were shipped from the port. Its population in 1830 was 2790, but at present it considerably exceeds that number.

Here was formerly the residence of the Great Sun or principal chief of the Natchez, a powerful and, in comparison with their savage neighbours, a polished people; they had an established worship, and regular laws, and, on an altar sacred to the sun, they kept up a perpetual fire in honour of the Great Spirit. In 1716, the French, whom they had received with kindness. were allowed to establish a post, called St. Rosalie, in their territory; but bickerings, as usual, soon ensued between the whites and the Indians, and the latter, stung to madness by the injuries they had experienced, surprised the fort and put the garrison to death. The French, however, sent a great force into the country, and pursued the war with so much vigour, that the whole nation was exterminated or sold into slavery, with the exception of a few, who joined the Chickasaws and Choctaws. The ruins of Fort St. Rosalie are still to be seen at Natchez. At the little village of Seltzertown, in the vicinity, there is a group of remarkable mounds, from which numerous relics, such as pipes, weapons, vessels covered with figures, &c., have been obtained. The principal mound is 35 feet in height, with a flat summit of four acres, surrounded by a low rampart or bank 2 or 3 feet high; upon this area rise 6 other mounds, one of which is 30 feet in height, or 65 feet above the plain; a collection of similar but smaller elevations are scattered around. There is, also, a similar group of 12 or 15 mounds nearer to Natchez.

Port Gibson, or Gibsonport, is a flourishing little town, prettily situated in a charming tract of country on the Bayou Pierre, and laid out with great regularity. The river is navigable for steam-boats to this place in time of high water, and a rail-road connects it with Grand Gulf, its port on the Mississippi. The latter, finely situated on a natural terrace, receding to a crescent of wooded hills, takes its name from a remarkable eddy in the river, and is a thriving town with 1000 inhabitants; 55,000 bales of cotton were shipped from this place in 1835. Port Gibson has 1200 inhabitants.

Vicksburg, higher up, stands in a picturesque situation, on the declivity of several considerable eminences, called the Walnut Hills, rising abruptly from the river. It is surrounded by numerous large and rich plantations, and is the depôt of a large tract of newly settled country, which a few years since was owned and occupied solely by Indians. It contains at present 2000 inhabitants, and in 1835 it shipped off 55,000 bales of cotton. Clinton, formerly Mount Salus, between the Pearl and Big Black Rivers, Vernon on the latter, and Satartia and Manchester on the Yazoo, are thriving villages. The portion of the State on the Yazoo has received a large number of immigrants during the few last years. Columbus, on the Tombeckbee, is a somewhat older town, and has 2000 inhabitants.

A large portion of this State was, until recently, in the possession of the Choctaws and Chickasaws. The former occupied an extensive tract on the eastern border, between the head waters of the Pearl and Big Black Rivers, and the Tombeckbee; in 1830 they ceded these lands to the United States, and in the course of the three succeeding years removed to the Western Territory; their number is 15,000. The Chickasaws are still in possession of a part of the country between the head waters of the Yazoo and Tennessee. But they cease to form a distinct nation, and they have ceded their lands to the United States on condition that they shall receive the proceeds of the sale. If they remain in the State, they become citizens and subject to its laws; those who choose to remove provide a home for themselves. Their number is about 5000.

8. *State of Louisiana.*

Louisiana lies with a broad front of about 300 miles towards the sea, and preserves nearly the same breadth for about 120 or 130 miles inland, when it suddenly contracts to the width of about 100 miles; but again gradually expanding, it has, in the north, a breadth of 180 miles; general length from south to north 250 miles; area 48,320 square miles. Extending from 29° to 33° N. lat., and from 88° 40' to 94° 25' W. lon., it has Arkansas and Mississippi on the north, Mississippi and the Gulf of Mexico on the east, the Gulf of Mexico on the south, and Texas on the west. The Sabine separates it from Texas from its mouth to the latitude of 32°, and the Mississippi and Pearl Rivers form its eastern frontier line.

The surface of this State is low and in general level, with some hilly ranges of little elevation in the western part, and numerous basins or depressions of the soil. The great Delta of the Mississippi, comprised within the Atchafalaya on the west, the Iberville on the east, and the Gulf of Mexico, and amounting to one-fourth part of the State, has in general an elevation of not more than ten feet above the Gulf, and is annually inundated by the spring floods. A great part of the Delta is composed of sea-marsh, which also forms the whole southern coast to the Sabine, and which, through its whole extent, is subject to inundations by the high tides. North of this marsh spreads out the vast level of the prairies, which is but slightly elevated above the former. The western margin of the Mississippi, to the northern border of the State, is a low strip intersected by numerous river channels, and overflowed by the spring floods. To the west of this belt and north of the prairies, is an extensive region comprising about one-half of the surface of the State, considerably broken, but nowhere exceeding 200 feet in elevation. The section north of the Iberville and Lake Pontchartrain, and east of the Mississippi, is of a similar description with the north-western region, and like that is principally covered with pine.

A great part of the surface of this State is periodically overflowed by the waters of the Mississippi. From a survey, made by order of the government of the United States, in 1828, it was found that the river inundated an extent of above 5,000,000 acres, a great proportion of which is rendered unfit for cultivation in its present state. This immense alluvial tract embraces soil of various descriptions, which may be arranged into four classes. The first, which is thought to be equal to two-thirds of the whole, is covered with heavy timber, and an almost impenetrable undergrowth of cane and other shrubbery. This portion is quickly drained as the river retires into its natural channels, and has a soil of the greatest fertility. The second class consists of cypress swamps. These are basins, or depressions of the surface, from which there is no natural outlet, and which, being filled with water by the floods, remain covered with it until the water is evaporated or absorbed by the earth. These, by draining, might become excellent rice fields. The third class embraces the sea marsh, a belt of land partially covered by common tides, but subject to inundation from the high waters of the gulf during the equinoxial gales; it is generally without timber. The soil in some parts is clayey, and in others, as black as ink, and cracks by the heat of the sun into fissures wide enough to admit a man's arm. The fourth class consists of small bodies of prairie lands, dispersed in different parts of the alluvial territory. These spots are elevated, and without timber, but of great fertility. The pine woods have generally a poor soil. The interval lands upon the rivers, or bottoms, as they are universally termed in the Western States, are almost always rich. On the Red River, the soil contains a portion of salt, and is of a dark red colour, from its containing oxide of iron. A great proportion of the prairies are second-rate land, and some of them are sterile. The richest tract in the State, is a narrow belt called the Coast, lying along the Mississippi on both sides, and extending from 150 miles above New Orleans, to 40 miles below. It is from one to two miles wide, and lies below the level of the water in the river in ordinary times of flood. It is defended from inundation by a dyke or levée, 6 or 8 feet in height, and sufficiently broad for a highway. The whole of this tract is under cultivation, and produces valuable crops of sugar.

The Mississippi, after having formed the boundary of the State for about 450 miles, enters its limits, 350 miles from the sea by the course of the river channel. Throughout this distance of 800 miles, its western bank is low and flooded in high stages of the water. At the point where it enters the State it throws off its first outlet, the Atchafalaya, and here may be said to commence the Delta of the river. The Atchafalaya, called here the Chafalio, receives the waters of the Mississippi only during the floods, and the navigation is obstructed by collections of timber, often covered with mud and weeds, which choke up its channel. The Teche and Courtableau are its principal tributaries. The Bayou Plaquemine, the next considerable outlet of the Mississippi, discharges the waters of that river into the Atchafalaya during the floods, and is the channel of trade between the country on the Atchafalaya and New Orleans. Lower down is the Lafourche outlet, which has high banks along its upper course, and admits vessels of 4 or 5 feet draft nearly to its head. On the left bank, the Bayou Manchac, a little below Baton Rouge, or the last highland passed in descending the Mississippi, is the first and principal outlet; after receiving the river Amite, from Mississippi, it takes the name of Iberville River. We may here remark that the term bayou, applied to arms of rivers in Louisiana, is generally confined to those which have no proper current, but are sometimes stagnant, and flow sometimes in one direction, and sometimes in another, according to the high or low stage of the waters; it appears to be a corruption of boyau, used in the sense of the corresponding English sea-term, gut.

The Red River is the most important, and, indeed, with the exception of two or three insignificant streams, on the eastern side, above Baton Rouge, the only tributary of the Mississippi within this State; for the surrounding country being lower than the river banks, its waters cannot gain access to the bed. The Red River rises in the Rocky Mountains, in the Mexican territory, and flowing eastwardly into Arkansas, turns to the south and passes into Louisiana. Soon after entering this State, its bed is choked up by an immense accumulation of fallen timber called the Raft, and the water is dispersed into numerous channels and spread over wide expanses. The Raft extended formerly over a distance of 160 miles, but 130 miles of it have been removed by the order of the general government, and the whole mass will soon be cleared away. Below Natchitoches the river divides into several arms, which again unite above Alexandria, and its waters reach the Mississippi just above the first outlet, after a course of 2000 miles; steam-boats have ascended to the head of the clearing in the Raft, about 600 miles from the Mississippi, and they will be able to go up about 500 miles further, when the work is completed. The Black River, its principal tributary, is formed by the junction of the Tensas, Washita, and Catahoola or Little River, all considerable streams and navigable by steam-boats; but most of the country along their courses is overflowed. The Bayou du Bon Dieu is also a large and navigable river, which enters the Red River above the Black River. There are numerous lakes in this section of the State, formed chiefly by the overflowings of the rivers, which fill the low basins back of their banks.

In the south are the Vermillion, Mermentau, and Calcasiu, which, rising in a tract of pine hills to the south of the Red River, and flowing through the great pastoral plains of the west, reach the low, marshy strip on the Mexican Gulf, and spread into shallow lagoons. The Sabine, which partakes of the character of the last described rivers, is, however, a considerable stream, and rises further to the north, in Texas.

Louisiana is remarkably destitute of good harbours; vessels drawing 8 feet of water can go up to Madisonville, on Lake Pontchartrain, but the other inlets on the coast are shallow. There is, however, a good road, on the western side of the Chandeleur Islands, called the road of Naso, in which the heavy vessels of the English fleet lay during the expedition against New Orleans. Numerous sheets of water, improperly called lakes, lie along the coast. Lake Borgne is an extensive bay, communicating with Lake Pontchartrain, by the passes or straits of the Rigolets and Chef Menteur. It has from ten to twelve fathoms of water, in the middle, and about ten or twelve feet at the upper end. Barataria, Vermillion, Cote Blanche, Atchafalaya, and Timballier bays are shallow tide basins. In the interior, lakes Barataria and Chetimaches are large bodies of water.

The staples of Louisiana are cotton and sugar; the latter is produced only in the southern part of the State, and affords a crop of from 70,000 to 90,000 hhds.; cotton is cultivated wherever the soil is suitable; the crop amounts at present to 200,000 bales. The prairies of the west afford fine pastures, and here are found large herds of cattle and horses. Rice, maize, tobacco, and indigo are also produced. In the eastern part of the State, between the Mississippi and Pearl rivers, much lumber is cut for exportation, and some tar, pitch, and turpentine are prepared.

Several rail-roads are constructing in the State. The New Orleans and Nashville Rail-road is in progress from New Orleans to the Mississippi State line, 88 miles; but the continuation through Mississippi has not yet been sanctioned by the legislature of that State. The Atchalafaya Rail-road, from New Orleans to that river, is also in progress, and a Rail-road has been made from Alexandria to a point on the Bayou Bœuf, a distance of 30 miles. The Woodville and St. Francisville Rail-road, 30 miles, is principally within this State. The New Orleans and Teche Canal, extending from the Mississippi to the river Teche, is in progress. Some useful works of less extent have also been executed. Among these are the Pontchartrain Rail-road, 4½ miles, from New Orleans to the lake of that name, and the Carrollton Rail-road, from the same city, 6 miles up the river; a rail-road to Lake Borgne, 10 miles, is about to be constructed; this last work, in connexion with a harbour on the lake, will afford a new and convenient access to the city, from the sea. There are also canals from New Orleans to Lake Pontchartrain.

Louisiana was first explored and occupied by the French, by whom it was ceded to Spain in 1763; the whole vast tract lying west of the Mississippi was then included under this name. In 1800, Louisiana was ceded to France, and in 1803, by that power was transferred to the United States for the sum of 15,000,000 dollars. In 1804, the southern part of the country was set off as a Territory, under the name of the Territory of Orleans, and in 1812 it was admitted into the Union as an independent State, by the name of Louisiana. The legislature, styled the General Assembly of Louisiana, consists of a Senate chosen for the term of four years, and a House of Representatives for two years. The Governor is elected by the General Assembly, for the term of two years, their choice being restricted, however, to one of the two candidates who have previously received the greatest number of votes from the people. The judges are appointed by the Governor, with the consent of the Senate, and hold office during good behaviour. Suffrage is virtually universal; being extended to every white male citizen of the age of 21 years, who has resided in the county in which he offers to vote, one year next preceding the election, and has paid a State tax within the six months preceding the election.

There are valuable school lands in Louisiana, reserved, like those in the other new States, on the sale of the Public Lands, and there are three colleges in the State, Louisiana College at Jackson, Franklin College at Opelousas, and Jefferson College; in 1835, the Legislature voted an allowance of 15,000 dollars a year to each of these institutions, and some attempts have been made, although with not much success, to provide for the education of poor children. There is a Medical School in New Orleans. The Roman Catholics form the majority of the population; but there are many Methodists, Baptists, Presbyterians, and Episcopalians.

The population of Louisiana consists in part of the French and Spanish colonists by whom it was occupied at the time of the cession, but it comprises also a large and increasing number of immigrants from the other States. The French language is used exclusively by a considerable proportion of the population, but the English is also familiar to many inhabitants of French origin.

The subdivisions bear the name of Parishes, of which there are 33.

Parishes.	Population.	
	Total.	Slaves.
Ascension	5,426	3,567
Assumption	5,669	1,881
Avoyelles	3,484	1,335
Baton Rouge (East)	6,698	3,348
Baton Rouge (West)	3,084	1,932
Carroll	formed since 1830	
Catahoola	2,581	920
Claiborne	1,764	215
Concordia	4,662	3,617
Feliciana (East)	8,247	4,652
Feliciana (West)	8,629	6,245
Iberville	7,049	4,508
Jefferson	6,846	4,907
Lafayette	5,653	2,367
Livingston	formed since 1830	
Lafourche	5,503	2,153
Orleans	49,826	16,639
Natchitoches	7,905	3,571
Plaquemines	4,489	3,188
Pointe Coupée	5,936	4,210

Parishes.	Population.		Parishes.	Population.	
	Total.	Slaves.		Total.	Slaves.
Rapides	7,575	5,329	St. Martin's	7,205	3,987
St. Bernard	3,356	2,519	St. Mary's	6,442	4,304
St. Charles	5,147	4,118	St. Tammany	2,864	1,360
St. Helena	4,028	1,359	Terre Bonne	2,121	1,033
St. James	7,646	5,029	Washington	2,286	587
St. John Baptiste	5,677	3,493	Washitau	5,140	2,145.
St. Landry	12,591	4,970			

Population at Different Periods.

	Total.	Slaves.
1810	76,556	34,660
1820	153,407	69,064
1830	215,529	109,588.

New Orleans, the principal city in the United States south and west of Baltimore, and the third commercial mart in the Union, stands on the left bank of the Mississippi, 100 miles from the sea by the course of the river, but only about 15 miles from the bay, improperly called Lake Borgne, and four miles from Lake Pontchartrain. Steam-boats and small vessels come up to the landing on the latter, where an artificial harbour has been formed, and whence a rail-road and two canals extend to the rear of the city. In the front of the city on the river, the largest merchant-ships lie close up to the levée or bank, so that no wharfs are necessary to enable them to load and discharge.

The river is here from 100 to 160 feet deep, and a half-mile wide, and it preserves the same width and nearly the same depth to the sea; but the bar at its mouth has only 16 feet of water. New Orleans is the depôt of the whole Mississippi Valley, and must increase in importance with the daily growing wealth and population of that vast region. Thousands of huge arks and flat-boats float down its mighty artery for thousands of miles, loaded with the produce of New York, Pennsylvania, and Virginia, as well as with that of the more western States. The number of steam-boat arrivals in 1835 was 1172; and from 1500 to 2000 flat-boats, 50 to 60 steamers, and a forest of the masts of sea-vessels may be seen lying at once along its levée. In 1831 there were exported from New Orleans 356,000 bales of cotton, and in 1835, 535,000 bales; in 1831, 32,974, and in 1835, 34,365 hhds. of tobacco; 47,015 hhds. and 4832 barrels of raw sugar, 1,539,267 lbs. of crushed, and 358,749 lbs. of clarified sugar, 18,597 hhds. and 23,577 bbls. of molasses, beside large quantities of flour, salted provisions, whiskey, lead, &c. were exported in 1835, in which year the shipping entered amounted to 357,414 tons, comprising 507 ships, 493 brigs, and 604 sloops and schooners; the total value of the exports for the year, including the foreign and coasting trade, was about 40,000,000 dollars.

The city stands on a dead level, and is regularly laid out with the streets intersecting each other at right angles; as the surface of the water is from two to four feet above the level of the city at high water, and even in low stages of water is above the swamps in the rear, a levée, or embankment, from four to eight feet high, has been made all along the river to prevent inundations; a breach or crevasse sometimes occurs in this dike, but it is rarely permitted to do much damage before it is closed. A traveller is struck on entering the city "with the old and narrow streets, the high houses ornamented with tasteful cornices, and iron balconies, and many other circumstances peculiar to towns in France and Spain, and pointing out the past history of this city, fated to change its masters so often." The newer parts of the city are, however, built more in the style of other American towns. The ground on which the city stands is soft and marshy, and an immense swamp extends around it on every side; these circumstances render the climate dangerous to strangers during certain seasons of the year, but the insalubrity seems to have been lessened by the draining of the contiguous grounds, the paving of the streets, and the precautions that have been taken for cleansing the city; it is well supplied with water from the Mississippi, which, though turbid when taken from the river, becomes clear and palatable when filtered or allowed to settle. Among the public buildings are the Roman Catholic Cathedral, a massive and imposing building with four towers, the State-house, Custom-house, Exchange, United States Mint, Ursuline Convent, several Theatres, some of which are splendid structures, the College of Orleans, the Charity Hospital, in which 9000 patients have been received in a single year, and three other Hospitals, the Orphan Asylum, &c. The charitable institutions are numerous and well conducted. New Orleans was founded by the French in 1717; in 1769 it was occupied by the Spaniards, and continued in their hands for about 34 years. In 1814–15 it was besieged by the English forces, who, advancing up Lake Borgne, approached within a few miles of the city by the Bayou Bienvenue, which discharges its waters into that bay. Their progress was checked by the Americans on the 23d of December, and after several other actions and almost continual skirmishing during the interval, they were repulsed and driven back to their boats on the 8th of January. Population, in 1810, 17,242; in 1820, 27,176; in 1830, 46,310; and in 1835, about 70,000, exclusive of from 40,000 to 50,000 strangers during the winter.

Donaldsonville, for some time the capital of the State, is a village with about 1000 inhabitants, at the mouth of the Lafourche outlet. Baton Rouge, 130 miles, by the river, above New Orleans, is a pretty village with houses in the French and Spanish style, and it contains a military post and an arsenal of the United States. It stands on the first highland or bluff point passed in ascending the river, but, although contrasted with the dead level that surrounds it, the site has the appearance of being quite elevated, it is only 25 feet above high water. The population of Baton Rouge is about 1200. St. Francisville, at the mouth of the Bayou Sara, is a neat, busy, and thriving village, consisting chiefly of one street. Galveztown on the Iberville, and Madisonville on Lake Pontchartrain, are small trading places. The Balize, at the mouth of the Mississippi, is a little settlement occupied by a few pilots, and taking its name from the Spanish Baliza, a beacon. The ground is marshy, and can be passed from house to house only on timbers or planks laid for the purpose.

St. Martinsville, and New Iberia, on the Teche, and Opelousas or St. Landre, to the north, are small villages containing from 300 to 500 inhabitants, but surrounded by a fertile and well cultivated country. Alexandria, on Red River, 100 miles from the Mississippi by the windings of the stream, is a pleasant little village in the centre of a rich cotton region, and ships large quantities of that staple for New Orleans. Natchitoches, 80 miles above, is the frontier town of the United States towards the Mexican or Texian territories. It was founded in 1717, and the population is a mixture of French, Indians, Spanish, and Americans. It was formerly the centre of the trade with the Mexican interior provinces, receiving bullion, horses, and mules, and sending off manufactured goods, tobacco, and spirits.

Subsect. 5.—*Western States.*

Under this head we may comprehend the whole of that vast expanse which stretches from the western flanks of the Appalachian Mountains to the base of the great Chippewayan System, and from the Red River of Louisiana to the Lake of the Woods. Extending from 80° to 108° W. lon., and from 33° to 49° N. lat., its greatest length from east to west is nearly 1500 miles, and its breadth from north to south is about 1100 miles. Only the eastern part, however, of this immense tract is inhabited by a white population, or has received a regularly organized government. The White Earth River, and the Missouri till it enters the State of that name, form the western limits of this politically organized region in the northern part, and an imaginary line drawn from the Sabine to the same river, is the boundary in the southern part.

There are but few, and those comparatively inconsiderable, mountainous tracts in this division. The Ozark Mountains perhaps attain, in some places, an elevation of 2000 feet, but their general height is much less. They extend from the Missouri, below the mouth of the Osage River, nearly to the Bravo or Del Norte of Mexico, at which point they are lost in the great chain of the Rocky Mountains. The Black Hills occupy a portion of the country between the Upper Platte and the Missouri below the mouth of the Yellow Stone, but they are imperfectly known. A hilly ridge between the Upper Mississippi and the Missouri, called by the French boatmen and hunters the Coteau des Prairies, or Prairie Hills, does not reach an elevation of more than 1000 feet, but it derives an interest from its influence upon the course of the Missouri, turning that vast flood from its eastward course, and compelling it to seek a southerly channel for several hundred miles, as the Black Hills give it a northern direction in the upper part of its course.

But the great physical features of this region are its giant rivers, with their hundred arms spreading for thousands of miles through every corner of the territory, and bringing its most remote recesses, in the very heart of a vast continent, almost into contact with the sea. The main trunk of this great system of rivers has been described under the general head of the United States. The less considerable tributaries, which have a local character, are noticed in the local details relative to the different sections to which they belong. The Ohio, on the east, and the Arkansas, Red River, and Platte, on the west, are the greatest of the subordinate streams. The first, gathering up the waters of one of the most fertile regions of the globe, bears upon its gentle current the products of a highly cultivated country. The last mentioned take their way for a considerable part of their course through barren tracts of sand. The Arkansas, however, has vast tracts of productive territory for many hundred miles in the lower part of its course, which is estimated to be 2500 miles in length. The Red River also passes through a less desert region than the Platte, the country in its lower part being highly fertile.

The Alleghany and Monongahela, rising in Pennsylvania and Virginia, unite at Pittsburg, and take the name of Ohio. From Pittsburg to the Mississippi, the river has a course of 950 miles, receiving numerous navigable streams, from the two great inclined planes, between which it runs. The southern or largest of these planes has a much greater declivity than the northern, and its rivers are more rapid, yet with few direct falls. The Kanhawa, Big Sandy, Kentucky, Green, Cumberland, and Tennessee, are the principal confluents from the Appalachian slope. On the north it receives the Big Beaver, Muskingum, Scioto, Miami, and Wabash, which come from the slightly elevated table-land of Ohio, Indiana, and Illinois. The whole region drained by this noble river extends from 34° to 42° 30′ N. lat. and from 78° to 89° W. lon., comprising an area of 200,000 square miles, rich in the most useful productions of nature, animal, vegetable, and mineral, and enjoying the advantage of a mild and healthful climate. From Pittsburg to its mouth it has a descent of 400 feet, or 5 inches to a mile; its current is gentle, and it is nowhere broken by falls, except at Louisville. Its breadth varies from 400 to 1400 yards, being on an average about 800 yards. The annual range from high to low water is about 50 feet, but it sometimes considerably exceeds this. In August, September, and October the water is at the lowest, and in December, March, May, and June, at the highest. The navigation is annually impeded by ice in winter, and by drought in autumn, in its upper part, but for the greater part of the year it is the scene of an active trade, and covered with steam-boats and river-craft. The Tennessee rises in the Alleghany Mountains and the Blue Ridge, and is interrupted in its course by a series of rocky ledges forming the Muscle Shoals, below which it affords a navigable channel 300 miles in length, and it is also navigable several hundred miles above that point; its whole course is about 1500 miles.

"The great rivers, which form so striking a natural feature of this region, give to the mode of travelling and transportation in general, a peculiar cast, and have created a peculiar class of men, called boatmen. Craft of all descriptions are found on these waters. There are the rude, shapeless masses, that denote the infancy of navigation, and the light steam-boat which makes its perfection; together with all the intermediate forms between these extremes. The most inartificial of all water-craft, is the ark, or Kentucky flat, a huge frame of square timbers, with a roof. It is in shape a parallelogram, and lies upon the water like a log; it hardly feels the oar, and trusts for motion mainly to the current. It is 15 feet wide, from 50 to 80 feet long, and carries from 200 to 400 barrels. These arks are often filled with the goods and families of emigrants, and carry even the carriages and domestic animals. They are also used for shops of various kinds of goods, which are sold at the different towns, and some of them are fitted up as the work-shops of artificers. Sometimes, also, they are used as museums of wax-figures, and other shows, or for travelling libraries.

"There are also keel-boats and barges, which are light and well built; skiffs, that will carry from two persons to five tons; 'dug-outs,' or pirogues, made of hollowed logs, and other vessels for which language has no name, and the sea no parallel. There are a few small boats that are moved by a crank turned by a single man. These are on the principle of steam-boats. Since the use of steam-boats, numbers of the other craft have disappeared, and the number of river boatmen has been diminished by many thousands." The first steam-boat on these waters was built at Pittsburg, in 1811; since that time, in a period of 25 years, about 600 have been built at different places, some of which are from 400 to 500 tons burthen, but the greater number are from 90 to 150, 200, and 300 tons; there are at present not far from 300 steam-boats on the Mississippi and its tributaries, making an aggregate of about 60,000 tons.

Another remarkable feature of this region is its extensive prairies, or unwooded tracts. They begin on a comparatively small scale in the basin of Lake Erie, and already form the bulk of the land about Lake Michigan, the Upper Wabash, and the Illinois; but on the west of the Mississippi they are more predominant, or rather the whole of this tract may be described as prairie intersected by patches of woodland, chiefly confined to the river valleys. The characteristic peculiarity of the prairies is the absence of timber; in other respects they present all the varieties of soil and surface that are found elsewhere; some are of inexhaustible fertility, others of hopeless sterility; some spread out in vast, boundless plains, others are undulating or rolling, while others are broken by hills. In general they are covered with a rich growth of grass, forming excellent natural meadows, from which circumstance they take their name; but in some cases they are covered with prickly-pear, yuccas, and similar plants. The Indians and hunters annually set fire to the prairies, in order to dislodge the game; the fire spreads with tremendous rapidity, and presents one of the grandest and most terrible spectacles in nature. The flames rush through the long grass with a noise like thunder; dense clouds of smoke arise; and the sky itself appears almost on fire, particularly during the night. Travellers then crossing the prairie are sometimes in serious danger, which they can only escape by themselves setting fire to the grass around them, and taking shelter in the burnt part, where the approaching flame must expire for want of fuel. Nothing can be more melancholy than the aspect of a burnt prairie, presenting a uniform black surface, like a vast plain of charcoal. A prejudice at one time prevailed against the prairies, as not fit for cultivation; but this was found to be erroneous, and they are more in request, as it is a most important object to save the labour of clearing the wood. They are easily converted into woodlands, by keeping out the fire and breaking the tough sward which covers them.

Lead, iron, coal, salt, and lime abound in the Western States; and probably no region in the world exhibits such a combination of mineral wealth and fertility of soil, united with such rare facilities of transportation. Tobacco, Indian-corn, hemp, cotton, salted provisions, flour, whiskey, hides and furs, coarse bagging, and lead are the most important articles of export; and all sorts of manufactured goods and colonial produce are imported.

1. *State of Ohio.*

This youthful but noble State lies in a compact mass between Pennsylvania, Virginia, Kentucky, Indiana, Michigan, and Lake Erie, extending from 38° 25′ to 42° N. lat., and from 80° 40′ to 84° 48′ W. lon.; it has a general breadth of about 200 miles, by about 140 in length from north to south, with an area of 45,000 square miles. On the southeast and south its boundary is formed by the river Ohio, through a distance of 420 miles, and on the north it has a lake coast of nearly 200 miles.

The surface nowhere presents any considerable elevation above the general level, but the State is a lofty table-land, which in the centre is about 1000, and on the northern and southern border from 600 to 800 feet above the sea. A slightly elevated ridge of highlands divides the waters flowing into Lake Erie from those flowing south into the Ohio; from this there is rather a rapid descent to the level of the lake, and the courses of the rivers on the Erie slope are considerably broken by falls. The general slope towards the Ohio on the south is interrupted by a subordinate ridge which crosses the State in about the latitude of Zanesville and Columbus, between which and the river the surface is very much diversified with hill and valley. The central belt consists of extensive flat tracts with numerous broad swells, rising gently from the plains, and swamps and morasses occasionally occur. The northern or Erie slope also contains extensive marshes. Nine-tenths of the surface of the State are susceptible of cultivation, and nearly three-fourths of the soil are eminently productive. Even the hills are generally cultivable to their summits, and covered with a fertile soil. The river bottoms are extensive and exuberantly fertile. In the centre and northwest, prairies or natural meadows are numerous and extensive, but the greater part of the country was originally covered with magnificent forests of gigantic trees, upon which, comparatively, little inroad has yet been made.

The rivers of Ohio either enter the Ohio river or Lake Erie; the principal streams are tributaries of the former. The Muskingum rises in the northern water-shed, near the head-waters of the Cuyahoga, and drains a beautiful and fertile district; it is about 200 miles in length, and is navigable during a great part of the year by small steam-boats to Zanesville, 75 miles, and by batteaux to Coshocton, 110 miles; above this small boats can ascend to within one mile of the Cuyahoga. Sandy River and Wills' Creek, on the east, and the Walhonding or White Woman's River and Licking, from the west, are the principal tributaries; they are useful mill-streams. The Hockhocking rises on the southern ridge, and reaches the Ohio after a course of 80 miles; it is narrow but deep, and is navigable for some distance by boats. The Scioto is a fine navigable stream, which flows through a wide and fertile valley, and in the upper part of its course is surrounded by rich and beautiful prairies. Boats have ascended almost to its source, and passed, by a portage of four miles, into the Sandusky and Lake Erie. The Little Miami rises on the southern ridge, and, although too much broken by falls to be useful as a navigable channel, it is a fine mill-stream, furnishing an abundant supply of water. The head-waters of the Miami, or Big Miami, approach very near to those of the Scioto, the Auglaize, and the St. Mary's; its current is rapid, but it is navigated 75 miles; Mad River and Southwest Branch are its principal tributaries.

Among the northern rivers the Maumee or Miami of the Lake, which has its source in Indiana, is the principal; it is navigable for lake vessels and steam-boats to Perrysburg, 18 miles from its mouth in Maumee Bay; above this point the river falls upwards of 60 feet in a distance of 18 miles, affording valuable mill-seats. The river bottoms are extensive and fertile, and the banks are high and heavily timbered. The Sandusky is a rapid stream, but navigable during high stages of the water. The Cuyahoga rises near Lake Erie, but, taking a southwesterly course, it approaches the head of the Muskingum, and thence flows northwardly into the lake. It is much broken by falls, which afford a plentiful supply of water for mills.

Ohio is amply provided with the most useful of minerals; iron, coal, salt, and lime. The iron ore is of good quality, and is pretty extensively worked in some of the eastern counties. There are salt-wells on Yellow Creek, above Steubenville; on Wills' Creek; on the Muskingum River, from the Coshocton to near its mouth; on the Hockhocking; on Leading Creek, and in other places. At the lower wells on the Muskingum, the salt rock is reached at 900 feet from the surface, and in some of the localities further up the river, at 650 to 700 feet; 50 gallons of brine from the former yield as many pounds of salt of an excellent quality; the upper springs are not so strong. On the Hockhocking, the salt is reached, near Athens, at a depth of 800 feet, but higher up the river it is much nearer the surface. Bituminous coal occurs in the same region, on the Muskingum, on the Hockhocking, and on the Ohio above and below Steubenville; and on Wills' Creek there is found cannel coal of superior quality. Some of the beds are worked, and the coal is consumed in manufactories and for domestic uses. Marble and freestone, well adapted for building, and gypsum also occur. The Yellow Springs in Green county, 64 miles north of Cincinnati, are situated in a delightful region, and have been resorted to with advantage in some cases of chronic diseases. The White Sulphur Springs, in Delaware county, have also been found efficacious in some complaints.

"The agricultural productions are such as are common to the Eastern and Middle States. Indian-corn, as in other Western States, is a staple grain, raised with much ease and in great abundance. More than 100 bushels are produced from an acre, on the rich alluvial soils of the bottom lands, though from 40 to 50 bushels per acre ought to be considered an average crop. The State generally has a fine soil for wheat, and flour is produced for exportation in great quantities. Rye, oats, buckwheat, barley, potatoes, melons, pumpkins, and all manner of garden vegetables, are cultivated to great perfection. No markets in the United States are more profusely and cheaply supplied with meat and vegetables than those of Cincinnati and other large towns in Ohio. Hemp is produced to some extent, and the choicest kind of tobacco is raised and cured in some of the counties east of the Muskingum river. Fruits of all kinds are raised in great plenty, especially apples, which grow to a large size, and are finely flavoured. The vine and the mulberry have been introduced, and with enterprise and industry wine and silk might easily be added to the exports. Swine is one of the staple productions, and Cincinnati has been denominated the 'pork market of the world.' Immense droves of fat cattle are sent every autumn from the Scioto Valley and other parts of the State. They are driven to all the markets of the East and South." (*Peck's New Guide for Emigrants.*)

The tobacco crop of Ohio is estimated at about 25,000 hhds., although that article has been raised for exportation only within a few years. Upwards of 150,000 hogs were slaughtered and packed in Cincinnati in 1834, but owing to the high price of the stock not more than half that number were killed in the following year. There were owned in the State in 1835, 262,291 horses, and 455,487 cattle. The number of acres of land subject to taxation was 17,819,631.

The manufactures of the State are yet in their infancy, but are rapidly increasing in importance. Whiskey, glass, salt, steam-engines, iron-ware, cotton yarn, cotton and woollen stuffs, cabinet ware, paper, hats, shoes, linseed and castor oil, &c., are among the articles produced; much lumber is cut and sawed, and steam-boat building is an important branch of industry. The local position of Ohio gives it great facilities for trade; the Ohio River affords direct communication with all the country in the valley of the Mississippi, while by means of Lake Erie on the north it communicates with Canada and New York. The northern and eastern counties export great quantities of agricultural produce to Montreal and New York, and since the construction of the Ohio and Pennsylvania Canals, many of the productions of the southern and western counties also find their way to New York and Philadelphia; an active export trade is also carried on down the river, by way of New Orleans. All the articles above enumerated are exported from the State, but we have no means of ascertaining the value of the exports. The tonnage amounted, in 1834, to 9427 tons, but this does not include the great number of river boats, whose aggregate amount is very considerable.

The public works which have been already executed, or are in a state approaching to completion, are of a magnitude to strike us with surprise, when we consider the infant character of the State. Two great works, crossing the State from north to south, connect the waters of the Ohio with those of the great lakes, and through them with the Atlantic Ocean. The Ohio Canal extends from Portsmouth at the mouth of the Scioto, up the valley of that river, 90 miles, thence across the intermediate district to the Muskingum, and by that river and the Cuyahoga to Lake Erie, a distance of 310 miles, with navigable feeders of 24 miles. The Miami Canal, extending from Cincinnati up the Miami and down the Auglaize to the Wabash and Erie Canal at Defiance, 190 miles, is not yet completed. The Wabash and Erie Canal, extending from Perrysburg, on the Maumee, to the Indiana State line, whence it is continued to the Wabash in that State, is now in progress; the section within Ohio is 80 miles in length. These works are executed by the State. The amount of tolls received on the Ohio Canal in 1835, was 185,317 dollars; on that section of the Miami Canal then in operation, viz. from Dayton to Cincinnati, 52,232 dollars. The Mahoning, or Pennsylvania and Ohio Canal, extending from Akron, on the Ohio Canal, to the Beaver division of the Pennsylvania Canal, 85 miles; and the Sandy and Beaver Canal, extending from Bolivar, on the Ohio Canal, to the mouth of the Beaver, 87 miles, are not yet completed, but are rapidly going on in the hands of private companies. The Mad River Rail-road, begun in September

1835, will extend from Dayton, at the mouth of Mad River, to Sandusky Bay, 153 miles. A rail-road from Cleveland to Pittsburg has been projected and authorised by law. The Cumberland or National Road is continued from Wheeling, across this State through Zanesville, Columbus, and Springfield, to the Indiana line.

The first settlement in Ohio was made at Marietta, by a body of emigrants from New England, in 1788. The lands north of the Ohio River had been previously ceded by the separate States to the government of the confederacy; and, July 13, 1787, an ordinance for the government of the Territory of the United States Northwest of the River Ohio had been passed by Congress. In the year 1800, the western part of the Territory was separated from the eastern part, under the name of the Indiana Territory, and in 1802, the State of Ohio was received into the Union as an independent member of the confederacy. The Constitution of Ohio vests the legislative authority in a Senate and a House of Representatives, together styled the General Assembly. The Senate is chosen for the term of two years, and the House for one; the Governor is chosen by the people, and holds office for two years. The Judges are elected by the General Assembly for the term of seven years. Suffrage is universal, and elections are popular. A system of general education has been organized, but is not in efficient operation throughout the State. In addition to the funds arising from the sale of school lands appropriated by Congress, a State tax is levied to aid in the support of common schools; each township is divided into school districts, and those districts which support a school for three months in a year are entitled to receive their quota of the State's money. There are about 20 respectable academies in the State. The University of Ohio, at Athens; Miami University, at Oxford; Kenyon College, at Gambier, with a theological department; Western Reserve College, at Hudson, with a theological department; Franklin College, at New Athens; Granville College, at Granville, with a theological department; Marietta College, at Marietta; Willoughby University, at Chagrin; and Oberlin Institute, at New Elyria, are the principal educational institutions. The Lane Seminary, at Cincinnati; the Lutheran Theological School at Columbus; the Medical College of Ohio at Cincinnati; the Reformed Medical College of Ohio, at Worthington; and the Law School, at Cincinnati, are devoted to professional studies. The predominant religious sects are the Presbyterians, Methodists, and Baptists. The Lutherans, Episcopalians, German Reformed, and Friends, are also numerous, and there are some Roman Catholics, Universalists, Shakers, and adherents of the New Jerusalem Church.

The rapid growth of the population of Ohio has never been paralleled; in 42 years from the time when it received its first white settlers, the number of its inhabitants was 937,903. Its fertile and unoccupied lands attracted immigrants not only from the other States, chiefly the Eastern and Middle, but large bodies of Swiss and Germans, and great numbers of British emigrants have settled themselves in its smiling valleys and rich plains. The Germans compose about one-tenth of the whole population, and they are for the most part ignorant of the English language; but as all legal proceedings are in that language, the German will soon disappear.

Population at Different Periods.

1790	3,000
1800	45,365
1810	230,760
1820	581,434
1830	937,903.

Ohio is divided into 75 counties, which are as follows:

Counties.	Population.	Counties.	Population.
Adams	12,281	Cuyahoga	10,373
Allen	578	Dark	6,204
Ashtabula	14,584.	Delaware	11,504
Athens	9,787	Fairfield	24,786
Belmont	28,627	Fayette	8,182
Brown	17,867	Franklin	14,741
Butler	27,142	Gallia	9,733
Carroll	formed since 1830	Geauga	15,813
Champaign	12,131	Greene	14,801
Clark	13,114	Guernsey	18,036
Clermont	20,666	Hamilton	52,317
Clinton	11,436	Hancock	813
Columbiana	35,592	Harden	210
Coshocton	11,161	Harrison	20,916
Crawford	4,791	Henry	formed since 1830

Counties.	Population.
Highland	16,345
Hocking	4,008
Holmes	9,135
Huron	13,346
Jackson	5,941
Jefferson	22,489
Knox	17,085
Lawrence	5,367
Licking	20,869
Logan	6,440
Lorain	5,696
Lucas	formed in 1835
Madison	6,190
Marion	6,551
Medina	7,560
Meigs	6,158
Mercer	1,110
Miami	12,807
Monroe	8,768
Montgomery	24,362
Morgan	11,800
Muskingum	29,334
Paulding	formed since 1830
Perry	13,970
Pickaway	16,001
Pike	6,024
Portage	18,826
Preble	16,291
Putnam	formed since 1830
Richland	24,008
Ross	24,068
Sandusky	2,851
Scioto	8,740
Seneca	6,159
Stark	26,588
Shelby	3,671
Trumbull	26,123
Tuscarawas	14,298
Union	3,192
Van Wert	formed since 1830
Warren	21,468
Washington	11,731
Wayne	23,333
Williams	387
Wood	1,102

There are several flourishing towns on the lake: Ashtabula is a small town with an artificial harbour; Painesville is a thriving village further west, three miles from the lake, which carries on some trade by its port, called Fairport. Cleveland, the most important lake-port of Ohio, stands on an elevated plain at the mouth of the Cuyahoga River and of the Ohio Canal. Its harbour has been secured by artificial piers, and is commodious and easy of access. The population in 1830 was 1076; in 1835 it amounted to 4200, exclusive of the little village of Brooklyn on the opposite side of the river, which contained 1000 inhabitants. In 1825 there arrived here 54 sail-vessels and 21 steam-boats of an aggregate amount of 7310 tons; value of exports, 50,166 dollars; of imports, 132,645; in 1833, 800 lake vessels and 705 steam-boats of 232,500 tons arrived, and the value of the exports was 2,044,000 dollars, of imports, 4,700,000 dollars. The number of arrivals had increased in 1835 to 895 lake-vessels and 980 steam-boats, amounting to about 270,000 tons, with a corresponding increase in the value of imports and exports. The amount of canal tolls paid here in that year was 72,718 dollars.

Huron, a thriving little town further west, is the depôt of a very rich and flourishing district, and Norwalk, in its rear, situated in a highly fertile country, contains some manufacturing establishments. Portland or Sandusky city is situated on a fine bay, with a good harbour, and is a busy and growing place. These villages have each about 1000 inhabitants. Perrysburg, at the head of steam-boat navigation on the Maumee, is prettily situated upon a high bank below the falls of the river; its situation combines great advantages both for navigation and manufactures, and the completion of the Wabash and Erie Canal will give it new importance. Fort Meigs, in the vicinity, was the scene of some fighting in 1812. Toledo, formerly Fort Lawrence, is a flourishing town, further down the river, with 2000 inhabitants.

Akron, Massillon, Bolivar, and Coshocton, are small but growing villages on the Ohio Canal. Zanesville stands at the head of steamboat navigation on the Muskingum, by which and the Ohio Canal it has a water communication with New Orleans and New York. The falls in the river have made Zanesville the seat of numerous mills and manufacturing establishments, including 2 flour-mills, 3 saw-mills, 3 iron-founderies, paper, cotton, and oil mills, glassworks, &c. The population in 1830 was 3094; in 1835, including the little village of Putnam, on the opposite side of the river, it was 5200. Two bridges cross the river here, and the town contains 8 churches, an athenæum, two academies, &c. Marietta, at the mouth of the Muskingum, is the oldest town in the State; it is pleasantly situated partly on a lower and partly on an upper plain, with wide streets, shaded with trees, green squares, and neat buildings. There are numerous mounds and embankments in and around the town. Ship-building was formerly carried on here, and many steam-boats are still built; several saw-mills, an iron-foundery, tanneries, &c., also furnish occupation to the inhabitants, whose number is 1200. Steubenville, on the Ohio, in the midst of a rich and populous district, contains 5 woollen and 2 cotton manufactories, 4 iron and brass founderies, 6 steam-engine and machine factories, 3 copperas works, several tanneries, and saw and flour mills, a chemical laboratory, &c., with a population of 2937 souls.

Newark, a busy little town on the Licking River, with about 1000 inhabitants, is chiefly remarkable for the extensive embankments found in its vicinity. These singular works consist of four enclosures, communicating with each other by long passages enclosed within parallel banks, and standing on an elevated plain at the junction of the Racoon Creek with the Licking. A circular enclosure of 22 acres in area and an octagonal enclosure of 40 acres, are thus connected with another circular work of 26 acres, and a square one of 20 acres, which are three miles distant from the former; the parapets are wholly of earth, and are from 3 or 4 to 10 feet high; numerous entrances or gateways afford access into the enclosed spaces, and before each gateway stands a mound of the same construction with the ramparts. The works at Marietta are of a similar character and extent, and there are others in the Scioto Valley, at Circleville, Chillicothe, and other places.

Columbus, the capital of the State, is pleasantly situated on the Scioto, in a rich and beautiful district, at the intersection of the river by the National Road, and a branch of the Ohio Canal. It is built on a regular plan, with a pretty square in the centre of the town, round which stand some of the principal public buildings. Here are the State House, an Asylum for the Deaf and Dumb, a new Penitentiary, conducted on the Auburn plan, Court-Houses, five Churches, &c. Population, in 1830, 2437; in 1835, 4000. Circleville, situated in the same fertile valley, has a population of about 1500; it ships large quantities of pork, flour, whiskey, butter, &c. The circular enclosure, from which it takes its name, has been mostly destroyed in the process of building the town; it was surrounded by two walls, 20 feet high, and it communicated with a square work; the former was 1000 feet in diameter, the latter 900 feet square; several large mounds are still standing in the town.

Chillicothe stands between Paint Creek and the Scioto, and the streets, extending across the neck from river to river, are intersected at right angles by others running parallel to the Scioto. Population, in 1830, 2840; in 1835 it exceeded 4000. The manufactures of the place are pretty extensive, and are rapidly increasing. Portsmouth, at the southern end of the Ohio Canal, derives importance from its situation; its trade is considerable, and there are here several iron-founderies, nail-factories, saw and grist mills, &c. Population, in 1830, 1066; at present it is nearly double that number. Gallipolis, on the Ohio above Portsmouth, and Athens and Lancaster, on the Hockhocking, are small villages. The last named, with 1800 inhabitants, is a place of some trade.

The city of Cincinnati, the principal town in the State, and the largest city in the west, is very prettily situated on an upper and a lower plain, or the first and second banks of the river; the latter is liable to inundation in a very high stage of the water; the former is about 60 feet higher, and extends back to the foot of a noble range of hills, which sweep round from the river above to a point below the city; a similar plain on the opposite side of the river, occupied by the flourishing villages of Newport and Covington, is half-enclosed by a similar range of highlands, so that the river appears to occupy the centre of a circular basin, completely surrounded by a lofty rampart of green and wooded heights. The streets of Cincinnati are drawn with great regularity in lines parallel and at right angles to the river, and being spacious, neatly paved, and often bordered by rows of fine shade-trees, they produce a most agreeable impression upon the eye of the traveller; this effect is heightened by the elegance of many of the public buildings and dwelling-houses, some of which are deeply embosomed in clumps of majestic trees and clusters of sweet flowering shrubs. There are here 26 churches, an Hospital, a Lunatic Asylum, a Theatre, &c., and the free schools of the city are numerous and on an excellent footing. The growth of Cincinnati has been astonishingly rapid; it was founded in 1789, and in 1800 it had a population of 750 souls; in 1820, the number of inhabitants had increased to 9642; in 1830, to 24,831, and in 1835 it exceeded 31,000, or, including Newport and Covington, 35,000. It has become the seat of extensive manufactures, and it carries on an active trade by the river and canal. In 1826 there were 15 steam-engines here; in 1836, the number was upwards of 50; 100 steam-engines, 240 cotton-gins, and 20 sugar-mills were made, and 22 steam-boats were built, in 1835. Brass and iron founderies, cotton-factories, rolling and slitting mills, saw and grist mills, and chemical laboratories, are among the manufacturing establishments; the value of manufactured articles produced in 1835 was estimated at 5,000,000 dollars. There were in that year 2237 steam-boat arrivals, and the value of the exports was estimated at 6,000,000 dollars; the amount of toll collected on the canal at Cincinnati was 25,803 dollars. Beef, pork, wheat and flour, whiskey, with various manufactured articles, are among the exports.

Dayton, on the Miami, at the junction of the Mad River which furnishes a great number of mill-seats, is a rapidly growing town, in a highly productive region. It carries on an active trade by the Miami Canal, and it contains numerous saw and grist mills, several woollen and cotton factories, an oil-mill, and other manufactories. Population, in 1830, 2954; in 1835, 3800. Xenia, Springfield, and Urbanna, are neat and thriving towns between the Miami and the Scioto. The northwestern part of the State, as yet but thinly inhabited, is already beginning to feel the impulse given by the construction of the Miami Canal, and will soon be filled with flourishing villages.

2. *State of Indiana.*

Indiana lies between Ohio and Illinois, having the State of Michigan on the north and Kentucky on the south. Extending from 37° 50′ to 41° 47′ N. lat., and from 84° 48′ to 88° W. lon., it has an extreme length of 275 miles, and a breadth of 140, with an area of 36,500 square miles. The Ohio forms its southern frontier, through a distance of 340 miles; the Wabash washes its western border through 150 miles of its course; and on the northwestern corner of the State is Lake Michigan. The southern strip comprised between the White River and the Ohio is hilly; and a low ridge, which causes the falls in the Ohio at Louisville, curves round toward the north and west, and crossing the White River and the Wabash, also produces rapids in those rivers. North of this narrow belt, the whole surface is level or very slightly undulating, presenting no bold or lofty elevations above the general face of the country.

Most of the land is productive, and, indeed, with trifling exceptions, is highly fertile; in the north there are wet and marshy tracts, but these are inconsiderable, when compared with the portion fit for cultivation. "Much of the country we have denominated hilly is rich, fertile land, even to the summits of the hills. On all the streams are strips of rich alluvion of exhaustless fertility. The interior, on the two White Rivers and tributaries, is moderately undulating, tolerably rich soil, and much of it heavily timbered with oaks of various species, poplar, beech, sugar-tree, walnuts, hickory, elm, and other varieties common to the West. There is much level table-land, between the streams. Along the Wabash below Terre Haute, is an undulating surface, diversified with forest and prairie, with a soil of middling quality, interspersed with very rich tracts. Along the Wabash and its tributaries above Terre Haute, the land in general is first-rate; a large proportion forest, interspersed with beautiful prairies. The timber consists of oaks of various species, poplar, ash, walnut, cherry, elm, sugar-tree, buckeye, hickory, some beech, sassafras, lime, honey-locust, with some cotton-wood, sycamore, hackberry, and mulberry on bottom lands. The undergrowth is spice-bush, hazel, plum, crab-apple, hawthorn, and vines. Along the northern part of the State are extensive prairies, and tracts of barrens, with groves of various kinds of timber and skirts of burr-oak. Towards Lake Michigan, and along the Kankakee and St. Joseph Rivers, are lakes, swamps, and marshes." (*Peck's New Guide for Emigrants*).

Indiana has great commercial advantages in her position and the number of her navigable rivers. The noble stream of the Wabash, which drains nearly the whole of the State and is one of the finest and most important tributaries of the Ohio, rises in the northeastern part of Indiana on the borders of Ohio, and crossing the State from east to west, pursues a southerly course into the Ohio River between Indiana and Illinois. It is navigable in high-water for steam-boats to Lafayette, 370 miles; but in low stages of the water its navigation is impeded by bars and ledges of rocks, through a distance of about 15 miles, just above the mouth of White River. The tributaries of the Wabash are large streams; the Salamanic, and Mississinewa from the south, and Little River, Eel River, and the Tippecanoe, from the north, are the principal in the upper part of its course. About 100 miles from its mouth it receives the White River, which is formed by the junction of two considerable streams, called the West and East Fork. The former rises near the head-waters of the Wabash on the Ohio line, and traverses the whole breadth of the State, in a course of about 300 miles; steam-boats sometimes go up to Indianapolis, 200 miles. The East Fork is little inferior in extent and volume of waters. The White Water on the southeast is the only other considerable stream that flows into the Ohio. In the north the Kankakee rises in the immediate vicinity of the St. Joseph's, and passes into Illinois. The St. Joseph's flows into Michigan. Another St. Joseph's unites with the St. Mary's, and forms the Maumee, which passes into Ohio and enters Lake Erie. A portage of a few miles connects the Maumee and Wabash.

The Wabash and Erie Canal, from Lafayette to Perrysburg in Ohio, lies chiefly in this State, the distance from Lafayette to the Ohio line being 130 miles; a considerable portion of the work is completed, and the remainder is in progress; it is executed by the State. In 1836, an appropriation of 1,300,000 dollars was made for continuing this work to Terre Haute, 90 miles, and thence to the Central Canal, 40 miles; at the same time 3,500,000 dollars were appropriated for the construction of the Central or White River Canal from the Wabash and Erie Canal above Loganport through Indianapolis, down the White River and Pigeon Creek, to Evansville, on the Ohio, 290 miles; and 1,400,000 for the Whitewater Canal, to extend through Connersville, down the valley of the Whitewater, to Lawrenceburg on the Ohio, 76 miles; further appropriations were also made of 50,000 dollars to aid Illinois in removing obstructions to the navigation of the Wabash; of 1,300,000 for the making of the Madison and Lafayette Rail Road, from the Ohio through Indianapolis to the Wabash, 160 miles; of 1,150,000 for a Macadamized road from New Albany, on the Ohio, to Vincennes, and of 1,300,000 for a turnpike or rail-road from the same place to Crawfordsville, near the Upper Wabash, 158 miles. The Lawrenceburg and Indianapolis Rail-road is in process of construction by a private company, which has received assistance from the

State; length 90 miles. The National Road passes from the Ohio line through Indianapolis, but is not yet completed.

Our knowledge of the mineral resources of Indiana is very defective; coal, lime, salt, and iron, are known to abound; but little attention has yet been paid to this source of wealth. The agricultural exports are beef, pork, cattle, horses, swine, Indian-corn, hemp, tobacco, &c.; ginseng, bees'-wax, feathers, and whiskey are also exported, but we have no means of estimating the value of the trade. There are some grist and saw mills, a few iron furnaces and some salt-works, but the manufacturing industry is inconsiderable. The current of immigration has flowed steadily into Indiana during the last 15 years, and its population has accordingly increased with great rapidity; in 1800, it amounted to 2641; in 1810, to 24,520; in 1820, to 147,178; in 1830, to 343,031; and in an official document it was estimated at the close of 1835 to amount to 600,000. Most of the inhabitants are from Ohio, and the Middle and Northern States; but there are many immigrants from Kentucky and Virginia, as well as from foreign countries.

Some French settlements were established here toward the close of the 17th century, at which time Vincennes was founded. This part of the country passed, with the rest of the French possessions in North America, into the hands of the English in 1763, and in the war of the revolution it became the theatre of some important events. Vincennes was captured by Col. Clarke in 1778. In 1811, the battle of Tippecanoe was fought at the mouth of that river, and the combined Indian forces, under the influence of the celebrated Shawanee prophet, were routed by Gen. Harrison.

The Legislature, styled the General Assembly of Indiana, consists of a Senate, chosen for the term of three years, and a House of Representatives, elected annually. The Governor and Lieutenant Governor, who is President of the Senate, are chosen by the people for the term of three years. The superior Judges are appointed by the Governor with the consent of the Senate; but the inferior Judges are chosen by the General Assembly or by the people; they all hold office for seven years. Every white male citizen of the age of 21 years, who has resided in the State during the year next preceding the election, enjoys the right of suffrage. The same provision has been made by Congress for the support of common schools, that has been made in the other new States, but no efficient system of general education has yet been adopted; the Constitution makes it "the duty of the General Assembly, as soon as circumstances shall permit, to provide by law for a general system of education, ascending in a regular gradation, from township schools to a State university, wherein tuition shall be gratis, and equally open to all." Indiana College at Bloomington, South Hanover College at South Hanover, and Wabash College at Crawfordsville, are useful institutions. Academies have been established in several of the counties. The Methodists and Baptists are the prevailing religious sects; the Presbyterians and Friends are numerous, and there are Roman Catholics, Episcopalians, &c.

Indiana is divided into 85 counties, as follows:

Counties.	Population.	Counties.	Population
Adams	formed in 1835	Harrison	10,273
Allen	996	Hendricks	3,975
Bartholomew	5,476	Henry	6,497
Boone	621	Huntington	formed in 1832
Carroll	1,611	Jackson	4,870
Cass	1,162	Jasper	formed in 1835
Clark	10,686	Jay	formed in 1835
Clay	1,616	Jefferson	11,465
Clinton	1,423	Jennings	3,974
Crawford	3,238	Johnson	4,019
Daviess	4,543	Knox	6,525
Dearborn	13,974	Kosciusko	formed in 1835
Decatur	5,887	Laporte	formed in 1832
Dekalb	formed in 1835	Lagrange	formed in 1832
Delaware	2,374	Lawrence	[illegible],234
Dubois	3,778	Madison	2,238
Elkhart	935	Marion	7,192
Fayette	9,112	Marshall	formed in 1835
Floyd	6,361	Martin	2,010
Fountain	7,619	Miami	formed in 1832
Franklin	10,190	Monroe	6,577
Fulton	formed in 1835	Montgomery	7,317
Gibson	5,418	Morgan	5,593
Grant	formed in 1831	Newton	formed in 1835
Greene	4,242	Noble	formed in 1835
Hamilton	1,757	Orange	7,901
Hancock	1,436	Owen	4,017

Counties.	Population.	Counties.	Population.
Parke	7,535	Sullivan	4,630
Perry	3,369	Switzerland	7,028
Pike	2,475	Tippecanoe	7,187
Posey	6,549	Union	7,944
Porter	formed in 1835	Vanderburgh	2,611
Pulaski	formed in 1835	Vermillion	5,692
Putnam	8,262	Vigo	5,766
Randolph	3,912	Wabash	formed in 1832
Ripley	3,989	Warren	2,861
Rush	9,707	Warrick	2,877
Scott	3,092	Washington	13,064
Shelby	6,295	Wayne	18,571
Spencer	3,196	Wells	formed in 1835
St. Joseph's	287	Whitley	formed in 1835
Stark	formed in 1835	White	formed in 1835.
Steuben	formed in 1835		

Indiana contains no large towns, but a great number of thriving villages are already scattered over her surface, and are daily growing in population, wealth, and trade, as the vast natural resources of the State are unfolded. Lawrenceburg, on the Ohio, just below the mouth of the Whitewater, carries on an extensive trade, but its site is so low that it is subject to inundation during very high stages of the water. Madison is a flourishing town, pleasantly situated, 60 miles below Lawrenceburg, with about 2000 inhabitants. Vevay is a little village, settled by a Swiss colony, with about 1000 inhabitants. Jeffersonville, opposite Louisville, is a thriving town; it contains the State Prison. New Albany, below the falls of the Ohio, is the largest town in the State, and contains about 3000 inhabitants. Evansville is also a growing village.

New Harmony on the Wabash was founded by the German sect called Harmonites, under the direction of Rapp; in 1824, it was bought by Owen of Lanark, who attempted to put in operation here his new social system; the scheme failed, and his followers were dispersed, but the village is now a flourishing place in other hands. Vincennes, higher up the river, is an old French settlement, formed in the beginning of the last century. The population in 1830 was 1500, but it is now rapidly increasing. Terre Haute, Lafayette, and Logansport are young, but growing centres of trade. Indianapolis, the capital of the State, stands on a fine plain near the White River, and is laid out with much taste and regularity; the spacious streets are lined with neat houses, and the public buildings are handsome structures. The population is at present about 2000. Richmond, on the National Road, near the Ohio State line, is also a prosperous little town. The town of Michigan has lately been founded on the lake of that name, but there is no good harbour within this State, and the navigation is dangerous on account of the exposure to the winds and surf. "The total absence of harbours round this southern extremity of the lake, has caused the wreck of many a vessel, as the action of a storm from the northward upon such a wide expanse of fresh waters is tremendous; and, from the great height and violence of the surf which then thunders in upon the base of the sand-hills, and the utter solitude of this coast, lives are seldom if ever saved." The whole shore is lined by lofty, bare sand-hills, rising to the height of two hundred feet, with a breadth of a mile and upward, in the rear of which a belt of sandy hillocks, covered with white oak and pine, forms the transition from the barren strand to the fertile country further inland.

There are still about 3000 Pottawatamies in the northern part of Indiana, and several hundred Miamies, but they will probably soon be removed to the Western Territory.

3. *State of Illinois.*

This rich and highly favoured tract of country extends from 37° to 42° 30′ N. lat., and from 87° to 91° 30′ W. lon. Its extreme length is 380 miles; its breadth in the north is about 140 miles, but it expands to 220 miles in the centre, whence it contracts toward the south to a narrow point. The land area is 55,000 square miles. Illinois has Wisconsin Territory on the north, Lake Michigan, Indiana, and Kentucky on the east, and Missouri and Wisconsin on the west; it has a lake-coast of about 60 miles; the Mississippi forms its western boundary through a distance of 550 miles; the Ohio is its southern boundary through 140 miles, and on the east it has the Wabash for 150 miles. The interior is penetrated by noble rivers affording extensive advantages for inland navigation. The Little Vermillion, Embarras, and Little Wabash are the principal tributaries of the Wabash from Illinois. The Illinois, the principal river of the State, is formed in the northeastern part by the junction of the Kankakee and the Desplanes, and flows, by a southwesterly course of 300 miles, to the Mississippi. For the distance of nearly 50 miles in the upper part of its course, there are obstructions to its navigation in a low stage of water, and the rapids above the mouth of the Vermillion River can be passed only in times of flood. Below this steam-boats of moderate burthen find no impediments through a distance of 260 miles. "The current throughout the distance last mentioned is exceedingly gentle, often quite imperceptible; indeed this part of the river may with much propriety be denominated an extended pool of stagnant water." (*Long's Expedition to the St. Peter's River.*) The Illinois has been well described as a natural canal, flowing through natural meadows. In high floods the Illinois overflows its banks, and the Mississippi, in a high stage of water, backs up the river to a distance of 70 miles from its mouth. In some places it expands to such a width as to receive the name of Lake; such an expansion is Lake Peoria, about 20 miles in length. The Kankakee rises in Indiana near the St. Joseph's, and boats pass in the wet season from the channel of one river to that of the other. The Desplanes rises in Wisconsin, and runs for some distance parallel to the shores of Lake Michigan, and not more than ten miles from the lake, with which there is a natural navigable communication, through which loaded boats often pass during the spring floods. The Fox River is a large stream which rises in Wisconsin, but there are rapids a few miles from its mouth. The Vermillion is a fine mill-stream; the Spoon River and the Sangamon are navigable streams. The Rock River is a large tributary of the Mississippi, rising in Wisconsin; it is navigable for some distance, but in low water the navigation is impeded by several rapids not far from its mouth. The Kaskaskia rises near the centre of the State, and reaches the Mississippi in a southwesterly course of about 400 miles; it passes through a fine country, and is navigable for some distance.

A small tract in the southern part of the State is hilly, and the northern portion is also somewhat broken; but the general surface is almost a uniform level, or slightly undulating. In many instances the face of the country is so level, that during the wet season it is inundated by the rains, and the water stands on the surface until it is evaporated. About two-thirds of the State consists of prairies, which in the southern part are comparatively few and small, but in the centre and north are numerous, and form wide expanses stretching as far as the eye can reach. In their natural state they form admirable pastures, but if the tough sward with which they are covered is destroyed, they soon become covered with forests. "In general, Illinois is abundantly supplied with timber, and were it equally distributed through the State, there would be no part wanting. The apparent scarcity of timber where the prairie predominates, is not so great an obstacle to the settlement as has been supposed. For many of the purposes to which timber is applied, substitutes are found. The rapidity with which the young growth pushes itself forward, without a single effort on the part of man to accelerate it, and the readiness with which the prairie becomes converted into thickets, and then into a forest of young timber, shows that, in another generation, timber will not be wanting in any part of Illinois.

"The kinds of timber most abundant are oaks of various species, black and white walnut, ash of several kinds, elm, sugar-maple, honey-locust, hackberry, linden, hickory, cotton-wood, pecan, mulberry, buckeye, sycamore, wild cherry, box, elder, sassafras, and persimmon. In the southern and eastern parts of the State are yellow poplar and beech; near the Ohio are cypress, and in several counties are clumps of yellow pine and cedar. On the Calumick, near the south end of Lake Michigan, is a small forest of white pine. The undergrowth is redbud, pawpaw, sumach, plum, crab-apple, grape-vines, dogwood, spice-bush, green-brier, hazle, &c. The alluvial soil of the rivers produces cotton-wood and sycamore timber of amazing size." (*Peck's Gazetteer of Illinois.*)

A third description of country is the barrens, or oak openings, which partake, as it were, at once of the character of the forest and prairie. The land is generally dry and more uneven than the prairies, and is covered with scattered oaks, interspersed at times with pine, hickory, and other forest trees, of medium or stunted size, which spring, however, from a rich vegetable soil, generally well adapted to the purposes of agriculture. "They rise from a grassy turf seldom encumbered with brushwood, but not unfrequently broken by jungles of rich and gaudy flowering plants, and of dwarf sumach. Among the oak openings you find some of the most lovely landscapes of the west, and travel for miles and miles through varied park scenery of natural growth, with all the diversity of gently-swelling hill and dale—here, trees grouped, or standing single—and there, arranged in long avenues, as though by human hands with slips of open meadow between. Sometimes the openings are interspersed with numerous clear lakes, and with this addition become enchantingly beautiful. But few of these reservoirs have any apparent inlet and outlet; they are fed by subterraneous springs or the rains, and lose their surplus waters by evaporation." (*Latrobe's Rambler in America.*) These tracts are almost invariably healthy, and the soil is better adapted to all kinds of produce than bottoms and prairies.

The alluvial bottoms are numerous and extensive in this State, being found of greater or less dimensions on all the rivers; many of them are liable to be inundated, and as the margins of the rivers are ordinarily higher than the land in the rear, the water cannot escape, but stands until it disappears by evaporation. These inundated tracts are unsuitable for settlement and cultivation, but will easily be reclaimed by draining or by raising embankments to prevent the overflow of the rivers. Other tracts of bottom land are above the reach of the floods, and present a soil of inexhaustible fertility, composed of the rich slime brought down and deposited by the river. They are generally, however, unhealthy, but cultivation appears to render them more salubrious. In the rear of these bottoms there are generally pools of standing water, caused by the circumstance before mentioned, that the surface declines from the margin of the river to the foot of the river-hills. One of the most extensive of these bottoms, called the American Bottom, extends from the Kaskaskia River to Alton, a distance of 90 miles, with an average breadth of five miles, and comprising 280,000 acres; the soil is from 20 to 25 feet deep. Below this, between Muddy Creek and the Ohio, is the Mississippi Bottom, also very extensive.

"These bottoms, especially the American, are the best regions in the United States for raising Stock, particularly horses, cattle, and swine. Seventy-five bushels of corn to the acre is an ordinary crop. The roots and worms of the soil, the acorns and other fruits from the trees, and the fish of the lakes, accelerate the growth of swine. Horses and cattle find exhaustless supplies of grass in the prairies [unwooded patches of the bottoms]; and pea-vines, buffalo-grass, wild oats, and other herbage in the timber, for summer range; and often throughout most of the winter. In all the rush-bottoms, they fatten during the severe weather on rushes. The bottom soil is not so well adapted to the production of small grain, as of maize, or Indian-corn, on account of its rank growth, and being more subject to blast, or fall down before harvest, than in the uplands." (*Peck's Gazetteer.*)

There is but little stony ground in the State, but toward the Lead District in the northwestern part, the soil is poor and stony, and the surface is much broken by limestone knolls, called knobs.

Coal, salt, and lime, iron, lead, and copper are among the known mineral productions of Illinois, but its bosom has not yet been explored for its hidden treasures. Coal is very abundant in almost every quarter, and is considerably worked. Lead is found in the northwestern corner of the State in exhaustless quantities; the lead-diggings extend from the Wisconsin to the neighbourhood of Rock River, and on both sides of the Mississippi. The Indians and French had been long accustomed to procure the ore, but it was not until 1822 that the process of separating the metal was begun to be carried on here. Since that time, up to the end of 1835, 70,420,357 pounds of lead have been made here, and upwards of 13,000,000 pounds have been smelted in one year; but the business having been overdone, the product has since been much less. In 1833 it was 7,941,792 pounds; in 1834, 7,971,579; and in 1835, only 3,754,290; this statement includes the produce of Wisconsin Territory as well as of Illinois. Some salt is made near Shawneetown; near Danville, on the Little Vermillion; and near Brownville, on Muddy Creek. The springs are owned by the State, and leased to the manufacturers.

Maize is the staple production of the State, and the average produce is 50 bushels to the acre. Wheat is also raised in large quantities, and yields flour of superior quality; rye is much used for distillation. Hemp, tobacco, and cotton, which is mostly consumed in household manufactures, but is also exported, the castor-oil bean, from which large quantities of oil are made for exportation, and the common grains are also among the products. Large herds of cattle are kept with little trouble, and great numbers are driven out of the State, or sent down the river in flat-boats. Thousands of hogs are raised with little attention or expense, and pork is largely exported.

Some settlements were made on the Mississippi by the French, from Canada, toward the close of the seventeenth century, at which time Cahokia and Kaskaskia were founded. The whole of this region was afterwards, however, abandoned to the English by the peace of 1763. In 1809, Illinois, which had previously formed a part of the Territory of Indiana, was organized as a separate Territory, under its present name, and in 1818 it became an independent member of the American confederacy. The legislature of Illinois, styled the General Assembly, consists of a Senate elected for four years, and a House of Representatives for two. The Governor and Lieutenant-Governor are chosen by the people for the term of four years. The Judges are appointed by the General Assembly, and hold office during good behaviour. The Governor and Judges of the Supreme Court form a council of revision, to which bills that have passed the Assembly are submitted for approval; notwithstanding their objections, however, a bill becomes a law by the vote of a majority of the two houses. All white male citizens above the age of 21 years, who have resided within the State six months next preceding the election, are entitled to vote. Votes are given viva voce.

The same provision has been made by Congress for the support of public schools in this as in the other new States, by the appropriation of certain proportions of the public land to this purpose. But the scattered state of the population has as yet prevented a general system of public education from being carried into operation. There are several respectable academies in the State, and Illinois College at Jacksonville, Shurtleff College at Alton, and the Alton Theological Seminary, at the same place, bid fair to be useful institutions. The Methodists and Baptists are the most numerous religious sects, and there are many Presbyterians, Roman Catholics, &c. An important public work has lately been commenced in this State, which will effect the junction of the Mississippi and Lake Michigan: the Illinois and Chicago Canal, extending from Chicago on the lake to a point below the rapids of the Illinois, a distance of about 100 miles, is in progress, forming the fourth navigable channel from the Mississippi valley to the great lakes. The part of the National Road between Terre Haute and Vandalia is not yet completed, and that part which is to extend from Vandalia, west to the Mississippi, is not yet begun.

The population of Illinois has increased with the same amazing rapidity as that of the neighbouring States. The constitution provides that neither slavery nor involuntary servitude shall hereafter be introduced into the State, otherwise than for the punishment of crimes; and as negroes coming into the State are required to give bonds with security, that they will not become chargeable as paupers, there are few blacks.

Population at Different Periods.

1800	3,000
1810	12,282
1820	55,211
1830	157,445
1835	272,427.

The United States census of 1830 returns 747 slaves in Illinois; but this is an error, the persons returned as such being indented apprentices. The whole number of blacks, in 1830, was 2384. Illinois is divided into 66 counties, as follows:

Counties.	Population.	
	1830.	1835.
Adams	2,186	7,042
Alexander	1,390	2,050
Bond	3,124	3,580
Calhoun	1,090	1,091
Champaign	formed in 1833	1,045
Clark	3,940	3,413
Clinton	2,330	2,648
Clay	755	1,648
Crawford	3,117	3,540
Coles	formed in 1830	5,125
Cook	formed in 1830	9,826
Edgar	4,071	6,668
Edwards	1,649	2,006
Effingham	formed in 1831	1,055
Fayette	2,704	3,638
Franklin	4,083	5,551
Fulton	1,841	5,917
Gallatin	7,405	8,660
Greene	7,674	12,274
Hamilton	2,616	2,877
Hancock	483	3,249
Henry	41	118
Iroquois	formed in 1833	1,164
Jackson	1,828	2,783
Jasper	formed in 1831	415
Jefferson	2,555	3,350
Jos Davies	2,111	4,038
Johnson	1,596	2,166
Kane	formed in 1836	
Knox	274	1,600
Lasalle	formed in 1831	4,754
Lawrence	3,668	4,450
Macon	1,122	3,022
Madison	6,221	9,016
Macoupin	1,990	5,554
Marion	2,125	2,844
M'Donough	2,959	2,883
M'Henry	formed in 1836	
M'Lean	formed in 1830	5,311
Mercer	26	497
Monroe	2,000	2,660
Montgomery	2,953	3,740
Morgan	12,714	19,214
Ogle	formed in 1836	
Peoria	1,309	3,220
Perry	1,215	2,201
Pike	2,396	6,037
Pope	3,613	3,756
Putnam	included in Peoria	4,021
Randolph	4,429	5,695
Rock Island	formed in 1831	616
Sangamon	12,960	17,573
Schuyler,	included in M'Donough	6,361
Shelby	2,970	4,848
St. Clair	7,087	9,055
Tazewell	4,712	5,850
Union	3,239	4,156
Vermillion	5,836	8,103
Wabash	2,710	3,010
Warren	308	2,623
Washington	1,675	2,292
Wayne	2,553	2,939
White	6,091	6,489
Whiteside	formed in 1836	
Will	formed in 1836	
Winnebago	formed in 1836.	

The towns of Illinois are small, but some of them are rapidly acquiring importance, and the number of thriving villages is already considerable. The principal town on the Ohio is Shawneetown, 127 miles from its mouth, and ten miles below the mouth of the Wabash; it is the depôt of the southeastern part of the State, including the Gallatin Salines, but is situated on a bank liable to inundation in very high floods. It has about 1000 inhabitants. Lawrenceville, on an elevated ridge near the Embarras, and Mount Carmel, below the rapids of the Wabash, are thriving towns. America is a little village occupying the first high land above the mouth of the Ohio, the banks below being inundated at high water. An attempt, however, has been made to secure a position from inundation at the junction of the Ohio and Mississippi, by a levee or embankment.

Cahokia and Kaskaskia are old French villages on the American Bottom, with not more than 500 to 600 inhabitants, most of whom are French. These and similar sites are found unhealthy for new settlers, but their occupants do not suffer in this respect. "The villages of Kaskaskia, Prairie du Rocher, and Cahokia, were built up by their industry in places where Americans would have perished." (*Beck's Gazetteer.*) This bottom is remarkable for the number and size of the mounds, which are scattered "like gigantic hay-cocks," over its surface. Seventy of these may be counted on the Edwardsville road, near Cahokia, and the principal mound, which is surrounded by a group of sixteen or eighteen smaller ones, is ninety feet in height, with a base of 600 yards in circumference. Mr. Peck, author of the Gazetteer of Illinois, does not hesitate to pronounce them all natural hills; other writers affirm that while some of them are evidently natural, others are as plainly of artificial origin. The subject requires further examination.

Alton, situated on the bluffs at the northern termination of the American Bottom, two miles and a half above the mouth of the Missouri, and eighteen below that of the Illinois, is the western depôt of the produce of Illinois. Possessing a fine, commodious harbour, with an excellent landing for steam-boats, formed by a level rock of a convenient height, which makes a natural wharf, Alton has become the centre of an active and daily growing trade. The population at present exceeds 2000. There are here four churches, a lyceum, two printing-offices, and a penitentiary; and the picturesque site of the town is well set off by its neat houses, surrounded by tasteful piazzas and gay shrubbery. Upper Alton, in the rear of Alton, and about three miles distant, is the seat of Shurtleff College and a Theological Seminary. Edwardsville is a neat and thriving village to the north of Alton.

Peoria is beautifully situated at the foot of the lake of that name, and contains about 1000 inhabitants. Ottawa, above the rapids, is also a flourishing village with deep water and a good landing. Chicago, on Lake Michigan, and at the mouth of a small river of the same name, has become the principal commercial depôt of Illinois. The town is pleasantly situated on a high plain, on both sides of the river, which affords easy access to the centre of business. An artificial harbour has been made by the construction of piers, which, extending some distance into the lake, prevent the accumulation of sand on the bar. The country around is a high, dry, and fertile prairie, and on the north branch of the Chicago, and along the lake shore are extensive bodies of fine timber. The town has grown up within four or five years, and contains at present six churches, a bank, 51 ware-houses, a printing-office, an academy, and 4000 inhabitants. In 1835 there were 267 arrivals of brigs and schooners, beside several of steam-boats.

Springfield, near the centre of the State, on the border of a beautiful prairie, and surrounded by one of the most fertile tracts in the world, and Jacksonville, further west, in the midst of a beautifully undulating and now cultivated prairie, are busy, flourishing towns with about 2000 inhabitants each. Bloomington, further north, is also a growing little village.

On the Mississippi, above the Illinois, Quincy and Rock River City, at the mouth of the river of the name, are favourably situated. On the rocky extremity of a little island, about three miles long and of half that width, at the mouth of Rock River, stands Fort Armstrong, a United States military post. Higher up, a few miles from the mouth of Fever River, which is navigable for steam-boats to the town, is Galena, a prosperous village in the lead district, with about 1200 inhabitants.

4. *State of Michigan.*

This State consists of two distinct peninsulas, separated from each other by the waters of Lake Huron and Lake Michigan. The southern division extends from the northern boundary of Illinois and Ohio to the straits of Michilimackinac, and has Lake Michigan on the west, and Lake Huron, the River and Lake St. Clair, the River Detroit, and Lake Erie on the east. It is 280 miles in length, and about 190 in breadth in the southern part, but contracting to a point in the north; and it has an area of 36,000 square miles. The northern peninsula lies between Lakes Michigan and Huron on the south, St. Mary's River on the east and Lake Superior on the north, and has the Menomonies and Montreal Rivers on the southwest and west; it extends from 83° 12′ to 90° 30′ W. lon., having a length of about 300 miles, and varying in width from 100 to a few miles; its area may be roughly estimated at about 20,000 square miles, giving about 56,000 square miles as the land area of the whole State. Michigan has a lake-coast of more than 1400 miles.

The surface of the southern peninsula is, in general, slightly undulating, and rarely forms a dead level; the water-shed, dividing the waters running eastward into Lakes Huron and Erie, from those flowing westwardly, gradually rises in the north, till it reaches an elevation of about 300 feet above the surface of the lakes, or nearly 1000 feet above the level of the sea. The northern part has not been fully examined, but it appears to be more uneven and broken than the southern; there are in many places along the shore of Lake Huron, lofty bluff points, and on the western coast, Lake Michigan is lined by bare, shifting sand-hills from 100 to 200 feet high, similar to those already mentioned on the Indiana shore. There are some marshy tracts in the south, and some swamps, near the margin of Detroit River, but the amount of such land is quite inconsiderable.

A great part of the surface is heavily timbered, being covered with a dense growth of oak of various species, walnut, hickory, poplar, sugar-maple, &c., intermixed, particularly in the north, with white and yellow pine. The forest is interspersed with oak openings, plains, and occasionally prairies; but the latter are less extensive than those of Illinois. The dry prairies have a rich soil from one to four feet deep, are easily cultivated, and yield abundant crops; the wet are serviceable in affording early pasturage and hay for wintering stock, and with a little labour may be converted into excellent artificial meadows. The *Plains* are generally covered with a regular, thrifty growth of timber, so free from brushwood as to resemble cultivated grounds. The soil is rather gravelly, but productive, and easy of cultivation. "The *openings* are often rather deficient in timber, though they are not unfrequently skirted with plains, or contain patches of woodland, from which an ample supply may be obtained, not only for fuel, but for building, fencing, and all other farming purposes, if used with economy. They usually require but little, and sometimes no labour, to prepare them for the plough; three or four yoke of cattle are found to be amply sufficient to break them for the first time, after which they are cultivated with nearly as much ease as old improved lands. They are found to be excellent for wheat, to improve by cultivation, and usually produce a good crop of Indian-corn the first season." (*Farmer's Emigrant's Guide*).

In point of fertility, this State is not surpassed by any tract of equal extent in the world, in the southern part, particularly, there are alluvial lands of great extent with a rich vegetable mould of from three to six feet in depth; and although the northern part is not so exuberantly fertile, yet it contains a large proportion of excellent land. Scattered over the surface, embosomed in beautiful groves, are numerous sheets of the most pure and limpid water, supplied by fountains, and bordered by clean, sandy shores.

The northern peninsula has been very imperfectly explored, but it appears to be much more hilly than the southern one. The rivers are very much broken by rapids, and by falls of great height, and the western part is covered by the lofty ridges of the Wisconsin Hills or Porcupine Mountains, which are stated to rise to an elevation of nearly 2000 feet above the level of Lake Superior. The shores of the lake are generally low and little indented by bays and harbours, and as the prevailing winds are from the northwest, and sweep with great fury over the wide unsheltered expanse of the lake, the navigation is more stormy and dangerous, than along the Canada shore. The American Fur Company built a schooner on this lake in 1834. The most remarkable object on the coast, after passing through the gigantic gate, of which Cape Iroquois and Gros Cap, at the eastern entrance, form the columns, is the Pictured Rocks, or La Portaille of the Canadians, 100 miles distant. A lofty wall of sand-stone extends along the shore for the distance of about 12 miles, rising perpendicularly with an elevation, in some parts, of 300 feet. The face of the wall discoloured by the water, presents the appearance of landscapes, buildings, and various objects delineated by the hand of man, while in some places the cliffs are broken into grotesque forms by the fury of the ever-dashing surge; "groups of overhanging precipices, towering walls, caverns, water-falls, and prostrate ruins are here mingled in the most wonderful disorder." One of the most curious formations consists of a tabular mass of sand-stone about 50 feet in diameter and 8 feet thick, supported by four columns, which are nearly round and exhibit almost the regularity of masonry; they are from 3 to 7 feet in diameter and about 40 feet high, and support four light and lofty arches. The Canadians call this structure La Chapelle, but American travellers have termed it, less happily, the Doric Rock.

Most of the rivers of this district empty themselves into Lake Superior; the principal are the Ontonagon, flowing through bold and picturesque banks, and much broken by falls; on its border is found the celebrated mass of native copper, about 20 cubic feet in bulk, and weighing from four to five tons. The Montreal, which forms the western boundary of Michigan, has a fall of about 90 feet, just above its mouth, but canoes have passed up to its source, and thence by a short portage into the Menomonies, which forms the continuation of the western boundary to Green Bay. The latter is navigable for about 70 miles from its mouth, but above that point is interrupted by falls and rapids. The American Fur Company have a few trading posts in this tract, but it contains no permanent white inhabitants except in the little village of St. Mary, which has a population of about 800 souls, mostly half-breeds, and French. At this place is Fort Brady, a United States Military Station. The River St. Mary, which forms the northeastern boundary of Michigan, separating it from Canada, is about 50 miles in length; a fall of about 22 feet in the distance of half a mile, prevents steam-boats and lake craft from entering Lake Superior, but canoes ascend and descend the rapids. A ship canal will doubtless be made, whenever the trade of the country shall require it. There are about 1200 Chippewas or Ojibwas scattered through this peninsula, and 250 Menomonies on Green Bay, north of Menomonies River.

The southern peninsula of Michigan is abundantly supplied with rivers and streams, affording valuable mill-streams or useful navigable channels; but rising in the central watershed and flowing east and west into the boundary lakes, they cannot have a course of much length. The St. Joseph's River has a winding course, through a rich and lovely country, of about 200 miles, and is navigable for steam-boats to the rapids, a considerable distance from its mouth. The Kalamazoo is a smaller and more rapid stream, but is navigable by boats. The Washtenaw or Grand River is the principal river of the peninsula; it has a circuitous course of about 260 miles, and is navigable by steam-boats 70 miles, and by keel-boats more than a hundred miles further. The Saginaw is a large and important river, formed by the junction of five or six considerable streams, about 40 miles from its mouth in Saginaw Bay. The Huron and Raisin are smaller rivers, falling into Lake Erie; but they are navigable by boats. The junction of Grand and Huron Rivers by a canal is projected. The Toledo and Grand River Rail-road is already in progress from Toledo to Adrian, a distance of 34 miles, and the Detroit and Pontiac Rail-road is also in progress; length 30 miles.

The most remarkable natural feature of Michigan is the great lakes, by which it is nearly surrounded. Lying in the centre of a vast continent, with their surfaces 600 feet above the level of the ocean, they penetrate far down below that level, since they have a depth varying from 800 to 1000 feet. Lakes Superior, Huron, and Erie with their connecting channels have already been described under the head of Canada; but it remains to give some account of Lake Michigan, which lies chiefly in the State that bears its name. This great sheet of water has hitherto been erroneously delineated upon our maps, as having a breadth of about 60 miles, but recent surveys have shown that its western shore extends along the meridian of 88 W. lon., thus giving it a width of from 80 to 100 miles; its length is about 360 miles, and it has an area of about 26,000 square miles. In general, it is remarkable for the absence of bays and harbours, the coast being throughout a greater part of its windings unbroken by any considerable indentations. Green Bay in the northwest is, however, a fine expanse, of about 25 miles in width, extending far up into the land, and accessible to vessels of 200 tons burthen. Ships of any size may float in Lake Michigan, but the waters on its shores are shallow. Lake Michigan communicates through the Straits of Michilimackinac, called in the country Mackinaw, 4 miles wide, with Lake Huron. It is remarkably free from islands, but towards its northern extremity are the Manitou Isles, and the Beaver Islands. In 1830 there were five vessels which did the whole carrying business of the Lake; in 1835, the number of schooners and brigs was 150, beside several large steam-boats.

Some settlements were made here by the French in the 17th century, and Detroit was at an early period an important trading post and military station. With the rest of this part of the country, Michigan passed into the hands of the English in 1763, and afterward formed part of the Northwest Territory. In 1805 it was set off into a distinct Territory, under its present name, and in 1836, was received into the Union, as an independent State, with the limits already described. The legislative power is vested in a Senate and House of Representatives, styled the Legislature; the former are chosen for the term of two years, and the latter annually. The Governor and Lieutenant Governor are chosen by the people and hold office for the term of two years. The Judges are appointed by the Governor, with the consent of the Senate, the term of office being seven years. Suffrage is universal. The constitution provides that neither slavery nor involuntary servitude shall ever be introduced into the State, except for the punishment of crimes; and that no lottery shall be authorised by the State, nor shall the sale of lottery tickets be allowed. It is also a provision of the constitution, that the Legislature shall encourage by all suitable means the promotion of intellectual, scientific, and agricultural improvement; shall provide for a system of common schools, by which a school shall be kept up and supported in each school district at least three months in every year; and, as soon as the circumstances of the State will permit, shall provide for the establishment of libraries, one at least in each township. Measures have already been taken by the Presbyterians for the establishment of a college at Anne Arbour; by the Methodists of another at Spring Arbour, and by the Baptists of a third in Kalamazoo county.

Although the French had long since made some settlements here, the number of the inhabitants was small, and confined chiefly to the banks of the Detroit and St. Clair. In 1810, the population amounted to only 4762; in 1820, it was 8896; in 1830, exclusive of the counties now belonging to Wisconsin, 28,004; and in 1834, 87,273.

The State is divided into 38 counties, as follows:

Counties.	Population. 1830.	1834.
Allegan	formed since 1830	
Arenac	formed since 1830	
Barry	formed since 1830	
Berrien	325	1,787
Branch	formed since 1830	764
Calhoun	formed since 1830	1,714
Cass	919	3,280
Chippewa	626	526
Clinton	formed since 1830	
Eaton	formed since 1830	
Gladwin	formed since 1830	
Gratiot	formed since 1830	
Hillsdale	formed since 1830	
Ingham	formed since 1830	
Ionia	formed since 1830	
Isabella	formed since 1830	
Jackson	formed since 1830	1,865
Kalamazoo	formed since 1830	3,124
Kent	formed since 1830	
Lapeer	formed since 1830	
Lenawee	1,491	7,911
Livingston	——	——
Macomb	2,413	6,055
Michilimackinac	877	891
Midland		
Monroe	3,187	8,542
Montcalm	——	——
Oakland	4,911	13,844
Oceana	formed since 1830	
Ottawa	formed since 1830	
Saginaw	formed since 1830	
St. Clair	1,114	2,244
St. Joseph	1,313	3,168
Sanilac	formed since 1830	
Shiawassee	formed since 1830	
Van Buren	formed since 1830	
Washtenaw	4,042	14,920
Wayne	6,781	16,638

Detroit, the principal town of Michigan, long a strong military post of the French, is pleasantly situated, chiefly on an elevated plain on the right bank of the river of the same name; a single narrow street runs along the margin of the water, but little elevated above its level. The city is regularly laid out and neatly built, and during the last five or six years its business and population have increased commensurately with the growth of the fertile country in its rear. In 1830, the number of the inhabitants was 2222; in 1835, it was estimated at 8000. The public buildings are five churches, of which the largest and most striking is the Roman Catholic Cathedral, a State House, Academy, and county buildings. Detroit is the depôt of all the country on the upper lakes, and there are sixteen or eighteen large steam-boats plying between this port and Chicago and Buffalo. The French farms extend several miles along the river above and below Detroit, and are uniformly laid out with a narrow front of a few acres on the river banks, and extending back into the country for miles. As the farm-houses stand on the front, they have the aspect of a continuous village. "The original owners are a singular race of beings altogether; mild and amiable, with all that politeness of manner which distinguishes every class of the courteous nation from which they derived their origin; they are still said to be profoundly ignorant. They call Detroit the Fort to this day, and yet few of them know any thing of the country whose soldiers first held it. They are good gardeners, but very indifferent farmers; and their highest ambition is to turn out the fastest trotting pony, when the cariole races commence on the ice at mid-winter." There is an arsenal of the United States at Dearbornville, near Detroit.

Detroit was at a very early period the rendezvous of the coureurs du bois, or French hunters and traders, and of the Jesuit missionaries, but does not appear to have had any permanent settlements until the beginning of the 18th century, at which time Fort Pontchartrain was erected here. In 1763 it was besieged for nearly a year by the celebrated Pontiac, an Ottawa chief, at the head of a powerful allied force of Miamies, Ottawas, Pottawatamies, Chippewas, Shawanese, and other tribes, but he was obliged to raise the siege by the arrival of a strong reinforcement to the garrison. In 1812 it was surrendered by General Hull into the hands of the British, but was not long after re-occupied by Harrison. Detroit is just beginning to fulfil the anticipations expressed by Mr. Schoolcraft. "Situated on the great chain of lakes, connected as they are at almost innumerable points with the waters of the Mississippi, the Ohio, the St. Lawrence, the Hudson, and the Red River of the north, it communicates with the ocean at four of the most important points in the whole continent. And when these natural channels of commerce shall be improved, so as to render them alike passable at all seasons of the year, the increased products of its commerce and agriculture will be presented with a choice of markets, at New Orleans, New York, or Montreal; an advantage derived from its singular position on the summit-level, in which the most considerable rivers, lakes, and streams in America originate. It is thus destined to be to the regions of the northwest, what St. Louis is rapidly becoming in the southwest; the seat of its commerce, the repository of its wealth, and the grand focus of its moral, political, and physical energies." (*Narrative of an Expedition to the Upper Mississippi.*)

The flourishing town of Monroe stands on the River Raisin, two miles from its mouth in Lake Erie, and is accessible to steam-boats. It contains several saw and grist mills, a woollen manufactory, and an iron foundery, and the river affords a great number of mill-seats, with a plentiful supply of water. The population in 1835 was 2000. Monroe occupies the spot on which the shocking massacre of the American prisoners by the Indians under General Proctor took place. An artificial harbour is in process of construction on the river. Anne Arbour is a pretty and thriving little village on the Huron, with 1000 inhabitants.

On the western side of the peninsula Niles is a thriving town on the St. Joseph, 25 miles from its mouth, with some manufactories, and 1000 inhabitants. At the mouth of the river is the village of St. Joseph, favourably situated to form the depôt of the richest part of Michigan. Grand Haven, at the mouth of Grand River, has recently been selected as the site of a village which will doubtless soon be a considerable town. At the outlet of Lake Huron, or head of the River St. Clair, on a commanding position, stands Fort Gratiot, a United States military post. The river is here narrow, and the current so rapid that vessels cannot pass without a strong breeze. On the Island of Michilimackinac, in the strait of the same name, are a village and United States military post. The former, called here Mackinaw, stands on a low flat bank at the edge of the water, and is composed of a few log houses with about 800 inhabitants; it is going to decay on account of the loss of the fur trade, of which the depôt has been removed to Lapointe in Wisconsin. The fort is on the edge of a lofty cliff overhanging the village, and forming the point of the towering rock, which composes the principal part of the island.

The northern part of the peninsula of Michigan is still occupied by bands of the Ottawas and Chippewas.

5. *Commonwealth of Kentucky.*

The State of Kentucky is separated from Illinois, Indiana, and Ohio, by the Ohio River, and from Missouri by the Mississippi River. On the east it is bounded by Virginia, and on the south by Tennessee. It lies between 36° 30′ and 39° 10′ N. lat., and between 82° and 89° 30′ W. lon., having a length of about 300, and a breadth of from 5 to 140 miles, with an area of 40,500 square miles. The Ohio forms its boundary through a distance of 650 miles, the Mississippi for 75 miles, and the Sandy River for about 100.

On the southeast the Cumberland Mountains separate it from Virginia, and although they do not anywhere attain a very great elevation, yet they give to this portion of the country a rugged and mountainous aspect, and their numerous spurs, projecting quite into the centre of the State, render the surface broken and hilly. Continuing westward we pass through an undulating and varied surface, abounding with bold features, although the hills are much less abrupt than in the east, until gradually sinking down with more rounded forms and gentle acclivities, they merge into an almost level plain on the Cumberland, Tennessee, and Mississippi. "Along the Ohio River, and extending from ten to twenty miles in different places from it, are the Ohio Hills parallel with that beautiful stream. These hills are often high, generally gracefully rounded and conical, with narrow vales and bottoms around their bases. They give to that portion of the State through which they extend a very rough appearance. They are covered with lofty forests, and have often a good soil on their sides and summits. The alluvial bottoms between them and the Ohio, and along the streams which fall into that river, are of the richest kind." (*Tanner's Emigrant's Guide.*)

In a state of nature, nearly the whole surface of this region was covered with a dense forest of majestic trees, and a close undergrowth of gigantic reeds, forming what are called in the country cane-brakes. But in the southern part, on the head waters of Green River and its branches, is an extensive tract, thinly wooded, and covered in summer with high grass growing amid the scattered and stunted oaks, that are sparingly sprinkled over its surface; this tract received from the first settlers, who were struck with the contrast which it presented to the luxuriant forests of the neighbouring districts, the unpromising name of the Barrens, which it by no means deserves. There are, indeed, portions of the Barrens, which are known as the Knobs, that are too sterile and rugged to admit of cultivation; but the soil is generally productive, although not of the first quality, and is well suited for grazing. There are also tracts in the mountainous regions, and portions of land on the Ohio Hills, too much broken to be cultivated, but a great part of Kentucky is unsurpassed in point of fertility of soil. The region watered by the Licking, Kentucky, and Salt rivers, is however justly described as the garden of the State, an epithet to which the exceeding beauty of its scenery, the great richness of the soil, and the fine springs and streams in which it abounds, amply entitles it. The natural growth of this section includes the black walnut, buckeye, sugar tree, elm, pawpaw, honey locust, mulberry, ash, yellow poplar, and coffee tree, with an entangled and impenetrable undergrowth of canes, and grape-vines of extraordinary size, which has given place to grass, the may apple, and other plants indicating a fertile soil. The substratum here, as is also the case throughout most of Kentucky, is limestone. This lovely region is the most populous, improved, and wealthy part of the State.

Kentucky is bountifully supplied with noble rivers and useful streams; beside the great limitary rivers already enumerated, several large and important water-courses traverse the State, with the single exception of the Upper Cumberland, in a uniform direction from south-east to northwest; several inconsiderable streams discharge their waters into the Mississippi, but the Ohio is the common recipient of all the rest. The Sandy, Licking, Kentucky, and Cumberland, rise in the same region in the Cumberland Mountains. The Kentucky is a rapid stream, running like the other rivers of the State in a deep channel, with a rocky bed and generally perpendicular rocky banks. It flows through a rich and highly cultivated country, and in high stages of water is navigable for steam-boats to Frankfort, 60 miles, and for flat-boats about 100 miles further. The Licking, which also flows through a fine region, enters the Ohio opposite Cincinnati, and affords boat navigation for about 80 miles. Salt River rises in the centre of the State; it has a great volume of water in proportion to the length of its course, and is navigable by flat-boats nearly 100 miles. It receives from the south a large tributary called the Rolling Fork. Green River likewise rises in the centre of the State, and takes a westerly course, until having received the Big Barren River from the south, it turns to the northwest; it has a gentle current, with great depth of water; steam-boats go up to Bowling Green, on the Big Barren, 180 miles, and flat-boats ascend nearly to the heads of the river. The Cumberland has its sources and its mouth in Kentucky, but the greater part of its course is in Tennessee. Rising on the western declivity of the Cumberland Mountains, it passes into Tennessee, and, returning north, enters the Ohio in this State, after a course of about 600 miles; steam-boats go up to Nashville, 200 miles, and in some stages of the water even to Burkesville in this State. The Tennessee, being separated from the Cumberland by the mountains of that name, has no portion of its head-waters in Kentucky; but it enters the State about 70 miles above its mouth. It admits steam-boats to Florence, in Alabama, 300 miles.

Kentucky, like other limestone regions, abounds in large caverns, sinks, and subterranean waters. Several of the caves are of extraordinary dimensions, stretching for the distance of several hundred yards into the earth, sometimes spreading into wide and high apartments and sometimes contracting into low, narrow galleries. Mammoth Cave near Green River is one of the most celebrated of these remarkable formations, and although recent examinations have reduced its size from the 16 or 20 miles attributed to it by earlier visiters, yet it has been found to reach about two miles and a half from its mouth; a distance which amply entitles it to retain its appellation. The sinks or sink holes are cavities or depressions in the surface of the ground, resembling those of Florida, already described, but of inferior extent. They are commonly in the shape of inverted cones, 60 or 70 feet in depth, and from 60 to 300 feet in circumference at the top. Their sides and bottoms are generally covered with willows and aquatic productions. The ear can often distinguish the sound of waters flowing under them, and it is believed that they are perforations in the bed of limestone below the soil, which have caused the earth above to sink. Sometimes the ground has been opened, and disclosed a subterraneous stream of water at the bottom of these cavities.

The mineral resources of Kentucky have never been systematically explored; yet iron ore, coal, salt, and lime, are known to abound. Some iron is made in different quarters, and several hundred thousand bushels of salt are manufactured annually, but as this article is furnished at a cheaper rate from the Kanawha salines, it is not made in very large quantities. The salt-springs received the name of licks from the early settlers, on account of their being the favourite resort of the wild animals, which were fond of licking the saline efflorescences so abundant around them. The name is also applied to the sulphuretted fountains, which occur in various places. Bituminous coal is quarried in several places and appears to be widely diffused. Saltpetre earth or nitrate of lime is found in many of the caves, which abound in this limestone region, and during the war was extensively used in making saltpetre. Agriculture, however, is the general occupation of the inhabitants, and Indian-corn, wheat, hemp, and tobacco, are the great staples of the State. Cotton is raised in small quantities and chiefly for home consumption in the southwestern corner. The fine pastures afford an ample range for cattle and horses, and many thousands of these and of hogs are annually driven out of the State. The horses of Kentucky are particularly prized in the neighbouring States for spirit and bottom. Salt-beef and pork, bacon, butter and cheese, are also largely exported.

The manufactures of Kentucky are already of considerable value, and are daily growing in importance; the rapid increase of the cotton crop of the Southern States has caused a corresponding demand for the cotton bagging, which is made in the State from one of its great staples, and bale-rope and cordage are also extensively produced; whiskey, cotton yarn, some cotton stuffs, and woollens, are also among the products of manufacturing industry. We have no data for determining the amount of the respective articles.

The Ohio and Mississippi are the chief theatres of Kentucky commerce, but the New York and Pennsylvania canals are also crowded with its materials. Some important works have been executed for the purpose of extending the facilities of transportation afforded by the natural channels. Of these the most magnificent is the Louisville and Portland Canal, passing round the falls of the Ohio; for although only a mile and a half in length, it is 200 feet wide at the surface and 50 feet at the bottom, and from the peculiar difficulties encountered in its construction, is estimated to be equivalent to about 75 miles of ordinary canals; it has four locks, capable of admitting steam-boats of the largest class, and a total lockage of 22 feet; it is constructed in the most solid and durable manner, and the cost of construction was 750,000 dollars. The Lexington and Ohio Rail-road extends from Lexington to Louisville, 90 miles. In 1835 a Board of Commissioners was created for the purpose of improving the navigable streams of the State, and establishing a permanent system of Internal Improvement. Measures have accordingly been taken for improving the navigation of the Kentucky River to the Forks, in Estill county, 260 miles; for the construction of locks and dams on Green and Big Barren Rivers; and for removing some obstructions in the Pond River, Muddy River, and Rough Creek, tributaries of the Green River. Several excellent turnpike or Macadamized roads have also been made.

Kentucky formed originally a part of Virginia, and was first explored by hunters from that province and from North Carolina in 1767. The first permanent settlements were made soon after (1774), but the pioneers of civilisation in the great Mississippi valley watered the beautiful valley of the Kentucky with tears and blood. This region does not appear to have been permanently occupied as a residence by any of the Indian tribes, but to have been the common hunting ground of the neighbouring bands. The frequent conflicts of these hostile savages had acquired for it even among them the terrible title of the 'bloody ground,' and such it proved to be to the first white men who settled within its borders. Many families were murdered, and some turned back to their former country; yet the population continued to increase by new immigrations, and in 1792 the State of Kentucky was admitted into the Union.

The Legislature consists of a Senate and a House of Representatives, styled together the General Assembly of the Commonwealth; the latter are elected annually, the former for the term of four years. The Governor, and the Lieutenant-Governor, who is speaker of the Senate, also hold office for four years. Elections are popular, and the right of suffrage is extended to every white male citizen of the age of 21 years, who has resided within the State two years, or in the county where he offers to vote, one year, next preceding the election; the votes are given viva voce. The judges are appointed by the Governor, and hold office during good behaviour.

No system of popular education has been adopted by this State, but in many of the counties common schools are supported. There are also several respectable Academies, and six Colleges in the State; these are Transylvania University, at Lexington, with Law and Medical departments, the oldest collegiate institution in the Western States; Centre College, founded by the Presbyterians at Danville; Augusta College, instituted by the Methodists; St. Joseph's College, a Roman Catholic establishment at Bardstown; Cumberland College, at Princeton; and Georgetown College, in the town of the name. There are also an Episcopalian Theological Seminary at Lexington, a Medical College at Louisville, and a Deaf and Dumb Asylum at Danville. The predominant religious sects are the Baptists and Methodists; the Presbyterians are also numerous, and there is a considerable number of Roman Catholics and Episcopalians.

Kentucky is divided into 83 counties, as follows:

Counties.	Population.	
	Total.	Slaves.
Adair	8,217	1,736
Allen	6,485	956
Anderson	4,520	981
Barren	15,079	3,735
Bath	8,799	1,582
Boone	9,075	1,820
Bourbon	18,436	6,868
Bracken	6,518	833
Breckenridge	7,345	1,480
Bullitt	5,652	1,143
Butler	3,058	453
Caldwell	8,324	1,774
Callaway	5,164	427
Campbell	9,883	1,033
Casey	4.342	463
Christian	12,684	4,335
Clarke	13,051	4,486
Clay	3,548	364
Cumberland	8,624	1,692
Daviess	5,209	1,324
Edmondson	2,642	278
Estill	4,618	441
Fayette	25,098	10,933
Fleming	13,499	1,764
Floyd	4,347	139
Franklin	9,254	3,092
Gallatin	6,674	1,184
Garrard	11,871	3,551
Grant	2,986	266
Graves	2,504	279
Grayson	3,880	238
Greene	13,138	3,461
Greenup	5,852	992
Hancock	1,515	347
Hardin	12,849	2,069
Harlan	2,929	136
Harrison	13,234	2,788
Hart	5,191	792
Henderson	6,659	2,559
Henry	11,387	2,463
Hickman	5,198	870
Hopkins	6,763	1,305
Jefferson	23,979	6,934
Jessamine	9,960	3,384
Knox	4,315	477
Laurel	2,206	126

Counties.	Population.	
	Total.	Slaves.
Lawrence	3,900	79
Lewis	5,229	464
Lincoln	11,002	3,638
Livingston	5,971	1,136
Logan	13,012	4,624
Madison	18,751	6,039
Mason	16,199	4,391
M'Cracken	1,297	130
Meade	4,131	945
Mercer	17,694	4,824
Monroe	5,340	645
Montgomery	10,240	2,580
Morgan	2,857	46
Muhlenburg	5,340	998
Nelson	14,932	4,628
Nicholas	8,834	1,237
Ohio	4,715	583
Oldham	9,588	2,605
Owen	5,786	790
Pendleton	3,863	428
Perry	3,330	155
Pike	2,677	78
Pulaski	9,509	1,007
Rockcastle	2,865	281
Russell	3,679	458
Scott	14,677	5,452
Shelby	19,030	5,920
Simpson	5,815	1,232
Spencer	6,812	1,513
Todd	8,680	8,168
Trigg	5,916	1,417
Union	4,764	1,355
Warren	10,949	2,863
Washington	19,017	4,714
Wayne	8,685	633
Whitley	3,806	139
Woodford	12,273	5,633.

Population at Different Periods.

	Total.	Slaves.
1790	73,077	11,830
1800	220,955	40,343
1810	406,511	80,561
1820	564,317	126,732
1830	687,917	165,213.

The eastern part of the State is generally but thinly peopled, and contains no considerable towns; yet it has hidden treasures in its coal-beds, salt-wells, and iron ores, that will one day be more fully appreciated than at present, and will form a source of wealth to its inhabitants. The valley of the west fork of Sandy River at Pikeville, and Cumberland Gap in the southeastern corner of the State, are the most important points of communication between this region and Western Virginia.

Maysville is the first considerable town of Kentucky which is passed in descending the River Ohio. It is the depôt of the upper part of the State, and its trade is pretty extensive; it has also some manufactures. The population in 1830 was 2040, but it has since probably doubled. Maysville occupies a narrow, but somewhat elevated bottom, at the mouth of Limestone Creek, which affords a harbour for boats. Newport and Covington are thriving towns situated on the opposite banks of the Licking River, and opposite to Cincinnati; they are the seats of some manufacturing industry, as well as of an active trade, and contained together, in 1835, about 4000 inhabitants. At Newport there is an United States Arsenal. About 20 miles southwest is the celebrated Big Bone Lick, which is much resorted to by invalids in the warm season. It has been already described on page 376 of this volume.

Striking southwardly into the interior, we enter that beautiful region whose luxuriant vegetation and lovely features filled the first adventurers with so much delight, when they emerged from the rugged mountain tracts of the east. It is now, indeed, filled with fine plantations, well cultivated farms, and flourishing towns and villages, and the gigantic game, which frequented its numerous licks and abundant springs,—the elk and the bison,—have disappeared; but the progress of improvement has only converted a natural paradise into a delightful garden. Lexington, Frankfort, Georgetown, Paris, Shelbyville, Louisville, Bardstown, Danville, and Harrodsburg are among the towns of this fine region.

Lexington, the oldest town in the State, and for many years the seat of government, is beautifully situated in the centre of the rich tract above described. The streets are spacious, well paved, and regularly laid out, and the houses and public buildings are remarkable for neatness and elegance. Fine shade-trees border and adorn many of the streets, and the principal mansion-houses of the citizens are surrounded by extensive grounds ornamented with noble trees and luxuriant shrubbery. The Halls of Transylvania University, the State Lunatic Asylum, the eleven Churches, &c. are among the public buildings. There are here several large cotton and woollen-manufactories, machine-shops, rope-works, cotton-bagging factories, &c. Lexington received its name from a body of hunters, who, while encamped here in the midst of the wilderness, heard the news of the battle of Lexington and Concord. In 1830 the population was 6104.

On the northeast is Paris, a flourishing town with 1219 inhabitants, and on the northwest stands Georgetown, also a busy and growing town, with 1344 inhabitants. At Great Crossings in the neighbourhood, is the Choctaw Academy, instituted for the purpose of educating Indian youth; the number of pupils in 1835 was 163, of whom 66 were Choctaws, 19 Chickasaws, 15 Creeks, 12 Cherokees, with some Miamies, Pottawatamies, Sacs and Foxes, Quapaws, and Seminoles. The institution is supported by funds accruing from the purchase of Indian lands, and appropriated by treaty with the respective tribes, to this purpose.

Frankfort, the capital, stands on the right bank of the Kentucky river, in a highly picturesque situation; the site of the town is an alluvial bottom, above which the river hills rise abruptly to the height of upwards of 200 feet, giving a bold, wild character to the scenery, which contrasts finely with the quiet, rural beauty of the town itself. Steam-boats go up to Frankfort, 60 miles from the mouth of the river, and keel-boats much higher. The State-house is a handsome edifice, built of white marble taken from the banks of the river, and there is here a Penitentiary, conducted on the Auburn plan. The population is 1680. At Harrodsburg, near the head of Salt River, to the south of Frankfort, are saline springs, which are much visited. Population, 1051. Bardstown, further west, the seat of the Catholic College of St. Joseph, is a flourishing village with 1629 inhabitants.

Louisville, the principal city of Kentucky, and in point of wealth, trade, and population one of the most important towns beyond the mountains, is finely situated on an extensive and gently sloping plain, at the mouth of Beargrass Creek, and above the falls of the Ohio. "Its position on one of the great bends of the river, with islands and rapids below, forms one of the most striking among all the beautiful scenes with which the Ohio abounds." The falls are only perceptible at low water, the whole descent being but 22 feet in two miles, and when the river is full they present no obstruction to the navigation; the Louisville and Portland Canal enables large steam-boats to reach Louisville in all stages of the water. Louisville carries on the most extensive trade of any of the western towns, many thousands of flat-boats arriving here yearly from all parts of the upper Ohio, and steam-boats arriving and departing daily in every direction. In 1831 the mercantile transactions of the place were estimated to amount to 15,000,000 dollars; in 1835 they had increased to 24,837,000. The population of Louisville, which in 1800 amounted to 600 souls, had increased in 1830 to 10,336, and in 1835 to 19,968. The manufactures are various and extensive, comprising cotton-yarn and stuffs, iron, cotton-bagging, cordage, hats, &c. The town is well built and regularly laid out with spacious, straight, and well-paved streets, running parallel to the river, intersected by others meeting them at right angles, and the landing is convenient for boats. There is a Nautical Asylum for disabled boatmen at Louisville. Portland is a growing little village at the lower end of the canal.

In the southern part of the State are Bowling Green, at the head of steam-boat navigation on the Big Barren branch of Green River, and Russelville, to the southeast, a flourishing village with 1358 inhabitants. Paducah, at the mouth of the Tennessee, has recently derived importance from its growing trade, and has at present about 1200 inhabitants. The banks of the Ohio and Mississippi are mostly subject to inundation, and afford no favourable sites for towns. The Iron Banks, 16 miles below the mouth of the Ohio, and the Chalk Banks, 5 miles further down, are the only points where the river-hills reach the bed of the river, in Kentucky.

6. *State of Tennessee.*

Tennessee has Kentucky and Virginia on the north, North Carolina on the east, Georgia, Alabama, and Mississippi on the south, and Missouri and Arkansas on the west. It extends from 81° 40′ to 90° 15′ W. lon., and from 35° to 36° 40′ N. lat., being about 110 miles in width, and about 400 miles in length in the northern and 300 in the southern part, with an area of 45,000 square miles. The eastern part of the State is mountainous; the Kittatinny range, under the local names of the Stone, Iron, Bald, Smoky, and Unaka mountains, forms the dividing line between Tennessee and North Carolina, while the prolongation of the Alleghany chain, of Chestnut Ridge, and of Laurel Ridge, traverse the State from north to south. The latter, which here takes the name of Cumberland Mountains, spreads out in this State to a breadth of about 50 miles, filling that section of the country which lies between the Tennessee and the Cumberland, before they take a western course, with long, regular ridges of no great elevation. Perhaps none of their summits exceed 2000 feet in height, and they are mostly wooded to the top; in some places they are too rocky and rugged for cultivation, while in others they swell gently from their elevated base, and they embosom numerous delightful and fertile valleys. West of this section is Middle Tennessee, which is generally of a moderately hilly surface, and, beyond the Tennessee River, West Tennessee is a level or slightly undulating plain.

Tennessee is bountifully supplied with noble rivers and fine, pure streams, furnishing ample power for economical purposes. The Mississippi washes the western border for a distance of 160 miles, and its banks within this State afford some of the most valuable commercial sites to be found in its long course The Cumberland has its sources and its mouth in Kentucky, but runs for about 250 miles in Tennessee; steam-boats sometimes go up to Burkesville in Kentucky, but they rarely pass above Carthage. The Tennessee also rises beyond the limits of the State. The Clinch and Holston have their sources in the Alleghany ridge of Virginia, but the Wataga, a tributary of the Holston, the Nolichucky and Big Pigeon, branches of the French Broad River, the Little Tennessee, and the Hiwassee, all rise in the Blue Ridge. The Little Tennessee is often considered as the main river, but it is much inferior to the Holston, with which it unites, and the confluence of the Holston and Clinch in fact form the Tennessee River. Most of these rivers are navigable by boats, and they receive numerous valuable mill-streams. After re-entering the State, the Tennessee flows 200 miles within its limits before passing into Kentucky, and is navigable throughout that distance for steam-boats. The Elk and Duck Rivers are its only considerable tributaries; rising in the same district on the western slope of the Cumberland Mountains, they reach their common recipient at a distance of 200 miles from each other; they are both navigable for a considerable distance. The Sequatchee is a smaller stream flowing through a rich and beautiful valley in the Cumberland Mountains. Caney Fork and Stone's River, the principal tributaries of the Cumberland, are navigable streams. The former rises within the mountains, the latter on their western slope. Western Tennessee is almost entirely drained by the Mississippi; the Obion, Forked Deer, and Hatchee Rivers are navigable streams emptying themselves into the Mississippi. Wolf River is a rapid and broken torrent.

The most valuable mineral products of Tennessee are iron, gold, coal, and salt. Gold is found in the southeastern section, but it has not been systematically worked. Iron occurs throughout the State east of the Tennessee; there is a considerable number of furnaces in East Tennessee, and in Middle Tennessee alone the number of furnaces, in 1835, was 27, producing about 27,000 tons of metal annually; there are also several rolling-mills and nail-factories in this section. Coal is found in the Cumberland Mountains of excellent quality and in great quantities; it is carried from Crab Orchard Mountain, near Emery's River, down the Tennessee to New Orleans, a distance of about 1700 miles. The supposed coal of Williamson, Davidson, and Maury counties is, according to Professor Troost, aluminous slate. Good marble, marl, buhr-stone, nitrous earth, and other useful minerals are found, and there are some valuable mineral springs.

Agriculture forms the principal occupation of the inhabitants. A large proportion of the land is productive, and many of the valleys of East Tennessee, and much of the middle and western sections are eminently fertile. Indian-corn and cotton are the staples of the State, and a good deal of tobacco, hemp, and wheat are raised. Cotton thrives in almost every part, except the northeastern triangular section, and the crop is about 150,000 bales, and increasing, as new lands have recently been devoted to this article. The tobacco crop affords about 5000 hhds. In East Tennessee grazing is much attended to, and great numbers of live-stock are driven out of the State to the eastern markets. The pine forests of this section also afford tar, spirits of turpentine, rosin, and lampblack; whiskey, coarse linen, live-stock, pork, bacon, lard, butter, saltpetre, gunpowder, flour, and fruits, constitute, with cotton, maize, and tobacco, the exports of Tennessee. The only outlet of the eastern section is by the long and tedious course of the Tennessee, or by wagons through the mountain passes. Several schemes have accordingly been projected to connect it by an easier route with the eastern ports; and there is now a prospect of the execution of the plan of a rail-road from Knoxville to Charleston, forming part of the great Ohio and Charleston Rail-road. Surveys have ascertained the practicability of a passage over the mountains, both from North Carolina towards Knoxville, and from Georgia towards the Tennessee, in the southern part of the State.

This country appears to have been first visited by hunters and Indian traders from North Carolina, in about 1730; it was, like Kentucky, found to be unoccupied by Indians, and abounding in buffalo, elk, and other game. Fort London was built on the Little Tennessee, in 1757, and some white settlements were made at that time. These were soon broken up by the neighbouring Indians, but a few years afterward they were renewed, and from that period immigrants continued to pour into the new country, which belonged to the province of North Carolina. In 1784 an abortive attempt was made by the inhabitants to form a separate government under the name of Frankland. In 1790 the Territory southwest of the Ohio, including the present States of Kentucky and Tennessee, was organized, and in 1794 the latter was constituted a separate Territory by its present name. In 1796 Tennessee was admitted into the Union as an independent State.

The supreme executive power of this State is vested in a Governor, chosen by the people for the term of two years. The legislature consists of two houses, a Senate and a House of Representatives, styled together the General Assembly, and elected for the term of two years. The Judges are chosen by the General Assembly, and hold office, the inferior Judges for eight, and the superior for twelve years. Every white male citizen, who has been an inhabitant of the county in which he offers to vote, for the six months preceding the election, enjoys the right of suffrage.

The State has a school fund, the interest of which is distributed to such school districts as provide a school-house, but little has yet been done towards the establishment of a common school system throughout the State. There are here several respectable academies, and five collegiate institutions: Nashville University at Nashville, East Tennessee College at Knoxville, Greenville College at Greenville, Jackson College near Columbia, and Washington College in Washington County; there is also a Theological Seminary at Maryville. The Methodists and Baptists are the most numerous religious bodies in Tennessee; the Presbyterians are also numerous, and there are some Episcopalians, Lutherans, Friends, &c.

Tennessee is divided into 62 counties, as follows:

East Tennessee.

Counties.	Population.		Counties.	Population.	
	Total.	Slaves.		Total.	Slaves.
Anderson	5,310	471	Jefferson	11,801	1,222
Bledsoe	4,648	419	Knox	14,498	2,033
Blount	11,028	1,024	M'Minn	14,460	1,282
Campbell	5,110	245	Marion	5,508	268
Carter	6,414	460	Monroe	13,708	1,053
Claiborne	8,470	615	Morgan	2,582	60
Cocke	6,017	608	Roane	11,341	1,118
Grainger	10,066	909	Rhea	8,186	647
Greene	14,410	1,070	Sevier	5,717	382
Hamilton	2,276	115	Sullivan	10,073	1,187
Hawkins	13,683	1 659	Washington	10,994	1,040.

Middle Tennessee.

Bedford	30,396	5,648	Montgomery	14,349	5,801
Davidson	28,122	11,662	Overton	8,242	842
Dickson	7,265	1,659	Perry	7,094	408
Fentress	2,748	119	Robertson	13,272	3,601
Franklin	15,620	3,547	Rutherford	26,134	8,649
Giles	18,703	5,958	Smith	19,906	4,384
Hardin	4,868	416	Stewart	6,968	1,400
Hickman	8,119	1,212	Sumner	20,569	7,257
Humphreys	6,187	725	Warren	15,210	1,556
Jackson	9,698	1,019	Wayne	6,013	279
Lawrence	5,411	552	White	9,967	922
Lincoln	22,075	4,091	Williamson	26,638	10,505
Maury	27,665	9,434	Wilson	25,472	5,944

West Tennessee.

Carroll	9,397	1,672	Henry	12,249	2,960
Dyer	1,904	601	Madison	11,594	4,167
Fayette	8,652	3,178	M'Nairy	5,697	377
Gibson	5,801	1,281	Obion	2,099	337
Hardeman	11,655	3,660	Shelby	5,648	2,149
Haywood	5,334	1,829	Tipton	5,317	1,732
Henderson	8,748	1,433	Weakley	4,797	848

Population at Different Periods.

	Total.	Slaves.
1790	35,791	3,417
1800	105,602	13,584
1810	261,727	44,535
1820	422,813	80,107
1830	681,904	141,603.

East Tennessee contains no considerable towns; the largest, Knoxville, having only 1500 inhabitants. It stands on a hilly site, on the right bank of the Holston River, and was for some time the seat of government, and a place of considerable trade; but, according to the Tennessee Gazetteer, its commercial importance has of late much diminished. It contains the Halls of East Tennessee College, a useful and flourishing institution. The other towns of this section, Blountville, Jonesboro, Rogersville, and Maryville are little villages of 500 or 600 inhabitants.

Crossing the mountains, we find Winchester, Fayetteville, at the head of navigation on the Elk, and Pulaski, thriving little towns in the south; the last mentioned has 1200 inhabitants, and the two others about 800 each. Columbia, on the Duck River, is one of the most flourishing towns in the State, and has about 1500 inhabitants; it is the seat of Jackson College. Murfreesboro, for some time the capital of the State, is pleasantly situated in a very rich and highly cultivated district, and it has a population of 1000. Carthage, on the Cumberland River, is a busy, growing town with 800 inhabitants.

Nashville, the capital, and the only considerable city of the State, is pleasantly situated on the southern bank of the Cumberland, in a fertile and picturesque tract. The site is elevated and uneven, and the town is well built, containing, beside some elegant dwelling-houses, the Court-house, a Lunatic Asylum, a Penitentiary conducted on the Auburn system, the Halls of Nashville University, six Churches, &c. The trade is active and pretty extensive, and there are some manufactories, comprising several brass and iron-founderies, rolling-mills, tanneries, &c. The population increased from 5566, in 1830, to above 7000, in 1835. Clarksville, below Nashville, is a thriving little town. Franklin, to the south of Nashville, is a busy town with 1500 inhabitants, who carry on some branches of mechanical and manufacturing industry pretty extensively.

West Tennessee, lying between the Tennessee and Mississippi Rivers, received its first white settlers in 1819, and at present it contains a population of nearly 100,000 souls, and has several flourishing towns. The soil is light and sandy, and well adapted to the raising of cotton. Jackson, on the Forked Deer River, with 1000 inhabitants; Bolivar, at the head of navigation, on the Hatchee, a very growing and busy town; Randolph, on the second Chickasaw Bluff, below the mouth of the Big Hatchee River, with a good harbour for steam-boats in all stages of the water, and conveniently placed for the outlet of a productive region; and Memphis, at the fourth Chickasaw Bluff, with one of the best sites for a commercial emporium on the Mississippi, are all small towns, but of growing business and importance. The Chickasaw Bluffs, or points where the river-hills reach the river, presenting sites above the reach of the floods, are four in number; the first being below the mouth of the Forked Deer River, is the site of Fulton; the second has been mentioned as that of Randolph; the third, 18 miles below, is separated from the main channel of the river by a bayou or slough, which is only navigable in times of high water; and the fourth is the site of Memphis. The next similar highland below is at Vicksburg, 365 miles by the course of the river. The Bluff on which Memphis stands is 30 feet above the highest floods, and its base is washed by the river for a distance of three miles, while a bed of sand-stone, the only known stratum of rocks below the Ohio, juts into the stream and forms a convenient landing. From the Ohio to Vicksburg, a distance of 650 miles, it is the only site for a great commercial mart on either bank of the Mississippi.

7. *State of Arkansas.*

Arkansas is the last born and as yet the most thinly peopled of the great American Confederacy, but, as it offers many attractions to emigrants, its fertile fields are already beginning to receive their new possessors. Lying in a very compact form between Louisiana and Missouri, it has Tennessee and Mississippi on the east, and the Western Territory and Mexico on the West. It extends from 33° to 36° 32′ N. lat., and from 89° 45′ to 94° 30′ W. lon., being 240 miles in length from north to south, by from 180 to 250 in breadth, and having an area of 54,500 square miles. The surface is much broken and hilly in the central part of the State, and in the western part is even mountainous, being traversed by several ranges known under the names of the Ozark and Masserne Mountains. Our knowledge of these highlands is, however, very imperfect. Some portions of this tract are stony and sterile; there are numerous and extensive prairies interspersed throughout, but in general it is well wooded and often covered with heavy timber.

The eastern part of the State for the distance of about 100 miles is a low, level tract, covered in a great measure with swamps and marshes. This vast flat extends, with slight interruptions, from Cape Girardeau, where a reef of rocks, called the Grand chain and connected with a hilly range on the north, crosses the Mississippi, quite down to the mouth of that river on the western side, and from the Chickasaw Bluffs to the Walnut Hills on the eastern side. It is intersected in all directions by numerous bayous, lagoons, and stagnant pools, which receive and retain the overflowing waters of the rivers, and is interspersed here and there with uplands, which rise like islands above the surrounding swamps. These lost hills,—*côtes sans dessein*, as they are termed by the French inhabitants,—are of various dimensions, from 20 or 30 to a few miles in circumference, but so cut off from all communication during the wet season, and surrounded by such an extent of noisome swamps, as to offer little attraction to the settler. Across this whole tract, from Cape Girardeau to Memphis on the western side, and from Memphis to Vicksburg on both banks of the river, there seems to be scarcely a route where the construction of roads is practicable, without raising the road-bed several feet above the surrounding level; the National Road in process of construction from Memphis to Little Rock, one of the few favourable routes existing, requires in some places embankments of 4 or 5 feet. (*Long's Reconnoissance of a Route for a Rail-Road from Savannah and Charleston to the Mississippi*). It is supposed, however, that the removing of the rafts and fallen timber that choke up the St. Francis and its tributary streams, and by backing up the water cause it to spread over the country, will reclaim extensive tracts. (*Linn's Letter to the Committee on Commerce*).

Arkansas is well supplied with navigable streams. The Mississippi washes its eastern border through a distance of nearly 400 miles, and receives several large rivers from this State. Among these is the Arkansas, one of the greatest of its tributaries, which flows through the centre of the State in a course of 350 miles, affording navigation during the greater part of the year far above its western limits. The St. Francis and White Rivers are noble streams flowing from the highlands of Missouri, but their channels are obstructed by rafts and drift-wood. The White River receives the Black River, a large and navigable stream with numerous navigable branches, from the east, and Red River, from the west. The southern part of the State is drained by the Red River of Louisiana, and its great tributary the Washita, which is navigable 400 miles. The Bayous Bartholomew, Bœuf, and Tensas, Saline Creek, Sulphur Creek, and the Little Missouri, pour their waters into the Washita.

Arkansas is as yet imperfectly known; but with extensive swamps and some sterile tracts, it contains a large quantity of highly productive land, and much of extraordinary fertility. Lead, coal, salt, and iron, abound, and there are valuable thermal and sulphuretted springs; the Hot Springs on the Upper Washita are said to have a temperature but little below the boiling point. Novaculite or oil-stone is found in the vicinity. Cotton and maize are the staples; the cotton crop is at present about 20,000 bales, but must rapidly increase. The country is admirably adapted for grazing.

Arkansas formed a part of Louisiana, and afterwards of Missouri Territory, until 1819, when it received a separate territorial government, and in 1836 it became an independent State. The legislature, styled the General Assembly, consists of a Senate chosen for the term of four years, and a House of Representatives elected biennially; the General Assembly meets every two years. The Governor holds office for the term of four years. The superior Judges are appointed by the General Assembly, those of the Supreme Court holding office for eight, and those of the Circuit Courts for four years. Every white male citizen of the age of 21 years who has resided within the State during the six months preceding the election, has the right of suffrage. Votes are given viva voce. In the prosecution of slaves for crime, it is provided that they shall have an impartial jury, and slaves convicted of a capital offence shall suffer the same degree of punishment as free whites, and no other. No lotteries can be established, and the sale of lottery tickets within the State is prohibited.

Arkansas is divided into 34 counties, as follows:

Counties.	Population, 1835.
Arkansas	2,080
Carroll	1,357
Chicot	2,471
Conway	1,214
Clark	1,285
Crawford	3,139
Crittenden	1,407
Greene	971
Hempstead	2,955
Hot Springs	6,117
Independence	2,653
Izard	1,879
Jackson	891
Jefferson	1,474
Johnson	1,803
Lafayette	1,446
Lawrence	3,844
Miller	1,373
Mississippi	600
Monroe	556
Phillips	1,518
Pike	449
Pope	1,318
Pulaski	3,513
Randolph	formed in 1836
Saline	formed in 1836
Searcy	formed in 1836
Scott	100
Sevier	1,350
St. Francis	1,896
Union	878
Van Buren	855
Washington	6,742
White	formed in 1836.

Population at Different Periods.

	Total.	Slaves.
1800	1,052	?
1820	14,273	1,617
1830	30,388	4,576
1835	58,134	9,629.

Arkansas contains no considerable town. The Mississippi affords no favourable site for a commercial emporium, and Helena and Chicot or Villemont are insignificant villages. The

Post of Arkansas or Arkansas is an old French settlement with about 600 inhabitants, and Little Rock, the capital, is a small town. It was officially styled Arkopolis, but the name of Little Rock, given it by the people in allusion to the large rocks in its vicinity, the first met with in ascending the river, has prevailed. It stands on a high bluff on the right bank of the Arkansas. The principal settlements are on the White and Black Rivers, along the Arkansas above the capital, on the head waters of the Washita, and along Red River in the southwest.

8. *State of Missouri.*

Missouri, in point of dimensions the second State in the Union, lies between 36° and 40° 35′ N. lat., and between 89° 20′ and 95° 30′ W. lon., having an area of about 66,000 square miles. On the east the Mississippi separates it from Illinois, Kentucky, and Tennessee, and on the west the Missouri forms the boundary of the northern half, but it is separated from Wisconsin Territory on the north, the State of Arkansas on the south, and the Western Territory on the west, only by imaginary lines. Much of the surface in the central portion of the section south of the Missouri is mountainous, or rather hilly, being traversed in different directions by the chains of the Ozark Mountains, one of which under the name of the Iron Mountain divides the waters of the St. Francis and White Rivers from those of the Maramec and Gasconnade, and another forms the water-shed between the Gasconnade and Osage; but these ridges are not very lofty. Between the Osage and Missouri, and north of the latter, the country is undulating and agreeably diversified, while in the southeast between the Big Black River and the Mississippi, the whole tract with the exception of a narrow strip on the border of the latter, is a low, inundated morass, forming a portion of the great Arkansas swamp.

The inundated tract above referred to is for the most part heavily timbered, and the hilly country to the north and west is also chiefly covered with a growth of pine, sycamore, hackberry, cotton-wood, sugar-maple, &c., although some of the hills are rugged and barren. Further west, and to the northwest of the hills, the land is divided between forest and prairie, and the northern part of the State has the same character. The rivers are generally skirted with rich alluvial belts, which are sometimes prairie and sometimes woodland, and much of the upland is of the very first quality, while a large portion of the inferior land is yet productive and well adapted for cultivation. "After making ample deductions for inferior soil, ranges of barren hills, and large tracts of swamp, the State of Missouri contains a vast proportion of excellent farming land." (*Peck's Guide.*)

Missouri is bountifully supplied with navigable channels, affording easy access to all parts of the State. The great river whose name it bears, washes its western border and flows through its central tracts, through a distance of 500 miles. It is below the mouth of the Platte, not far above the northwestern corner of Missouri, that it takes the turbulent, turbid character which it imparts to the Mississippi through the lower part of its course. It receives the Osage and the Gasconnade from the south, and the Grand and Chariton Rivers from the north within this State. The Osage rises in the Western Territory, and receiving several considerable tributaries from the north and south, it drains nearly the whole of the southwestern part of the State. It affords navigation for a distance of nearly 200 miles, and flows through some of the finest land in Missouri. The Gasconnade, rising in the Ozark Mountains, flows north through a more hilly region, and is navigable for a considerable distance. The Grand River and Chariton, also navigable streams, rise in Wisconsin Territory, and flow by pretty direct courses into the Missouri. The Mississippi washes the eastern border of Missouri for the distance of 470 miles, and beside several less considerable tributaries receives the Salt River and Copper River, on the north, and the Maramec on the south of the Missouri. The southern part of the State is wholly drained by the numerous branches of the St. Francis and White Rivers, with the exception of a narrow strip in the southwest which sends off its waters to the Arkansas. The navigation of the St. Francis and Big Black Rivers, which rise in the mineral district of Missouri, is obstructed by rafts and fallen trees, but a project for the removal of these obstructions is on foot, and is highly important to the interests of this section of the State.

Although but imperfectly examined, the mineral treasures of Missouri are known to be very great. "The mineral district of Missouri, comprising parts of the counties of Washington, St. Genevieve, Jefferson, St. Francis, and Madison, extends from the head-waters of the St. Francis to the Maramec River, a distance of about seventy miles in length, and from the Mississippi in a southwesterly direction, a distance of about fifty miles in breadth, and abounds with minerals of various descriptions, but is particularly characterised by the abundance and richness of its lead ore: iron, manganese, zinc, antimony, arsenic, plumbago, and other minerals of minor importance, are also to be found in this district." (*President's Proclamation*). The lead ore is the galena or sulphuret of lead; it yields from 60 to 70 per cent., but is found in detached masses and not in veins; the annual product is about 3,000,000 lbs. Numerous shot-factories are established here, the high rocky bluffs of the Mississippi rendering the erection of towers unnecessary. Iron is also found in inexhaustible quantities, and is pretty extensively wrought. Coal abounds particularly along the Missouri, and aluminous and nitrous earth, marble, salt-springs, sulphuretted and thermal waters, &c., occur.

Missouri is admirably adapted for a grazing country, and vast herds of cattle, horses, and swine are raised. The prairies are excellent natural pastures; "the business of rearing cattle is almost reduced to the simple operation of turning them upon these prairies and letting them fatten until the owners think proper to claim the tribute of their flesh." Beef, pork, tallow, hides, and live-stock constitute important articles of export. Cotton is raised in the southern part of the State, but not in considerable quantities; tobacco is more extensively grown, and hemp, wheat, Indian-corn, and the other cereal grains are cultivated with success. Maize, flour, lead, furs, buffalo-skins and tongues, and lumber, constitute, with the articles before mentioned, the exports of Missouri. The American Fur Company has a factory at the mouth of the Yellow Stone, to which a steam-boat sometimes ascends, and the Santa Fe caravan, which consists of 140 or 150 men with 40 or 50 wagons, brings home specie, wool, and mules.

Some French settlements were formed at St. Louis and St. Genevieve, in the middle of the last century, and the descendants of the French colonists are still found here. They resemble their Canadian countrymen, and though skilful and indefatigable boatmen and active hunters, they are generally ignorant and unenterprising; they are familiarly known under the name of Crapauds, and the numerous half-breeds of French and Indian origin are called Gumbos. After the cession of Louisiana to the United States, in 1803, the northern part was erected into a Territory of that name, which was afterwards changed into that of Missouri, and in 1821 the State of Missouri was admitted into the Union. "Emigrants from every State and several countries of Europe are found here, but the basis of the population is from Kentucky, Tennessee, and Virginia. The people generally are enterprising, hardy, and industrious, and most of those who hold slaves, perform labour with them." The immigration into Missouri has lately been very extensive, as appears from the statement below of the increase of its population.

The legislative power is vested in a General Assembly, consisting of two houses, a Senate chosen for the term of four years, and a House of Representatives for two. The Governor and Lieutenant-Governor are chosen for the term of four years. The Judges are appointed by the Governor and Senate, and hold office during good behaviour. The right of suffrage belongs to every white male citizen of the age of 21 years, who has resided in the State one year before the election, and in the county in which he offers to vote, three months. The constitution makes it the duty of the General Assembly to oblige the owners of slaves to treat them with humanity, and to abstain from all injuries to them extending to life or limb; it also provides that slaves shall not be deprived of an impartial trial by jury. There are three colleges in the State: St. Louis University in St. Louis, and St. Mary's College at Perryville, Catholic institutions, and Marion College at Palmyra. The Baptists and Methodists are the most numerous sects; the Presbyterians and Roman Catholics are also pretty numerous, and there are some Episcopalians.

Missouri is divided into 52 counties, as follows:

Counties.	Population.		Counties.	Population.	
	Total.	Slaves.		Total.	Slaves.
Audrain	formed since 1830		Lafayette	2,912	429
Barry	formed since 1830		Lewis	formed since 1830	
Benton	formed since 1830		Lincoln	4,059	750
Boone	8,859	1,923	Madison	2,371	410
Callaway	6,159	1,456	Marion	4,837	1,327
Cape Girardeau	7,445	1,026	Monroe	formed since 1830	
Carroll	formed since 1830		Montgomery	3,902	605
Chariton	1,780	301	Morgan	formed since 1830	
Clarke	formed since 1830		New Madrid	2,350	471
Clay	5,338	882	Perry	3,349	536
Clinton	formed since 1830		Pettis	formed since 1830	
Cole	3,023	300	Pike	6,129	1,193
Cooper	6,904	1,021	Polk	formed since 1830	
Crawford	1,724	64	Pulaski	formed since 1830	
Franklin	3,484	396	Randolph	2,942	493
Gasconnade	1,545	137	Ralls	4,375	839
Green	formed since 1830		Ray	2,657	166
Howard	10,854	2,646	Ripley	formed since 1830	
Jackson	2,823	193	Rivers	formed since 1830	
Jefferson	2,592	236	St. François	2,366	423
Johnson	formed since 1830		St. Genevieve	2,186	523

Counties.	Population. Total.	Slaves.	Counties.	Population. Total.	Slaves.
St. Charles	4,320	951	Stoddart	formed since 1830	
St. Louis	14,125	2,796	Van Buren	formed since 1830	
Saline	2,873	706	Warren	formed since 1830	
Scott	2,136	362	Washington	6,784	1,168
Shelby	formed since 1830		Wayne	3,264	372.

Population at Different Periods.

	Total.	Slaves.
1810 (including Arkansas)	20,845	3,011
1820	66,586	10,222
1830	140,455	25,091
1832	176,276	32,184
1836 (estimated)	210,000	?

St. Louis, the principal and only considerable town of Missouri, stands nearly in the centre of the Great Valley, on the right bank of the Mississippi, 17 miles below the mouth of the Missouri, 175 miles above the mouth of the Ohio, 1350 miles from the Gulf of Mexico, and 850 from Washington. It has easy water communication with the country at the foot of the Rocky Mountains, 2600 miles distant by the course of the river, on one side, and with Quebec and New York, 1800 to 2000 miles, on the other; and with New Orleans, 1250 miles to the south, and Fort Snelling, 860 miles to the north. It is built on two banks: the first, not much raised above the level of the river, contains two narrow streets running parallel with its course, and the second or higher bank, which spreads out into a wide plain in the rear, comprises the rest of the city. The upper part is well laid out with spacious and regular streets. St. Louis was founded in 1764, but it continued to be an inconsiderable village while the country remained in the hands of the Spanish and French. In 1820 it contained only 4598 inhabitants, and in 1830, 5852; but in the succeeding five years it is estimated to have doubled its population. It is the commercial emporium of the Upper Missouri and Mississippi, and must increase rapidly in importance as the vast regions to the north and west become occupied by industrious cultivators. St. Louis is the principal western depôt of the American Fur Company, who have here a large establishment, containing thousands of furs and skins of every sort; they have nearly a thousand men in their employ, and nearly 10,000 dried buffalo tongues have been brought in in a single year. It is also the centre of the overland trade with New Mexico. The lead mines in its vicinity and the establishments connected with the Indian agencies, land offices, and army supplies, also create a good deal of business. The number of steam-boat arrivals in 1831 was 532, making an aggregate of 65,000 tons; in 1835 the arrivals were 803, tonnage 100,000. The population is now chiefly composed of Americans, but there are many French, with some Germans and Spaniards. There are four or five Protestant Churches and a Roman Catholic Cathedral. In the vicinity are an United States Arsenal and Jefferson Barracks, extensive stone buildings with accommodations for 600 or 700 men.

Carondelet, a few miles below St. Louis, is a little French village, inhabited chiefly by Crapauds and Gumbos, who have given it the nickname of Vide Poche (Empty Pocket), from the poverty of the place. Their kitchen-gardens furnish vegetables for the St. Louis market. Herculaneum, a little further down, is a small town, which contains numerous shot-works, and serves as one of the ports of the lead district. St. Genevieve is another old French village, built on a high alluvial bank which the river is now washing away. Cape Girardeau, situated on a high bluff in the midst of a rich district, is the depôt of the southern part of the State. New Madrid is an inconsiderable village, on a high alluvial bank, which, like that of St. Genevieve, has been mostly carried away by the river. The village also suffered from the earthquake of 1811. The agitations of this great convulsion were felt at New Orleans and on the Atlantic coast, but the centre of the Mississippi Valley for some distance above and below New Madrid, appears to have been the seat of the most terrible throes. Here the earth opened in wide chasms, from which columns of water and sand burst forth; hills disappeared, and their places were occupied by lakes; the beds of lakes were raised, and their waters flowed off, leaving them dry; the courses of the streams were changed by the elevation of their beds and the falling in of their banks; for one whole hour the current of the Mississippi was turned backwards towards its source, until its accumulated waters were able to break through the barrier that had dammed them back; boats were dashed on the banks, or left dry in the deserted channel, or hurried forwards and backwards with the eddying surges, while in the midst of these awful changes, electric fires, accompanied by loud rumblings, flashed through the air. In some places submerged forests and cane-brakes are still visible at a great depth on the bottom of lakes which were then formed. Oscillations and slight shocks continued to be felt at intervals in this region for many years, and are even yet occasionally experienced.

Leaving the Mississippi we pass Potosi, a thriving town in the lead-mine district, and proceeding north reach St. Charles, on the Missouri, twenty miles from its mouth, with about 1500 inhabitants. The banks of the river below this town, and at the junction of the two rivers, are low and flooded. In the centre of the State, on the south side of the Missouri, is the City of Jefferson, the capital, an inconsiderable village, containing the State-house and a Penitentiary. Franklin, Boonesville, Independence, and Liberty are small villages. The latter is the most westerly town in the United States, with the exception of Pembina, and it already publishes its newspaper.

Clarksville, Hannibal, and Marion are small places on the Upper Mississippi, which lay claim to a prospective importance. The latter is the port of Palmyra, a flourishing town with 1000 inhabitants.

9. *Wisconsin Territory.*

The vast tract erected into a Territory under this name, in 1836, stretches from Lake Michigan to the Missouri and White Earth Rivers, and from the northern frontier of Missouri and Illinois to the boundary of the American and British possessions. Extending from 40° 30′ to 49° N. lat., and from 87° to 102° W. lon., it is about 660 miles in extreme length, by from 400 to 500 in breadth, with an area of about 290,000 square miles. The greater part of the Territory is still owned and occupied by the native tribes, and a large proportion of its surface has not been examined or even visited by whites, unless it be by trappers and traders. The expedition of Lewis and Clarke up the Missouri, in 1804; of Pike toward the sources of the Mississippi, in 1805; of Long up the St. Peter's and down the Red River, in 1823; of Governor Cass and Schoolcraft toward the source of the Mississippi, in 1820, and of the latter to the actual head of the great river, in 1832, with the narratives of the Jesuits, Carver, and Henry, are among the principal sources of our information in regard to the main bulk of the Territory. The southeastern section between the Mississippi, Wisconsin, Fox River, and Lake Michigan; and a strip on the western side of the Mississippi, about 50 miles in width, extending from the northern frontier of Missouri to a point a little above the mouth of the Wisconsin, have been purchased of the native owners, and are now receiving white settlers.

Wisconsin Territory has the Missouri for 1300 miles, and the White Earth River for 75 miles, on the west; the parallel of 49° from the latter to Rainy Lake, that lake with the chain of lakes and rivers connected with it, Pigeon River, and Lake Superior, on the north; the Montreal and Menomonies Rivers, Green Bay, and Lake Michigan, on the east, and Illinois and Missouri on the south.

The whole territory consists of a lofty table-land with a surface considerably broken by hilly ridges, which, however, nowhere attain a great elevation above the general level. The Coteau des Prairies, between the Red and Mississippi Rivers on the east, and the Missouri on the west; a low ridge of pine hills between the Mississippi and the Red River; a similar ridge forming the water-shed between the former and Lake Superior, and sweeping northeastwardly round the lake between the waters of Hudson's Bay and the St. Lawrence, and the Wisconsin Hills extending southwards from Lake Superior to the Rock River of Illinois, seem to be the most prominent ranges of highlands.

The northern part of the Territory between the Red River and Lake Superior is a region of lakes, swamps, inundated lowlands, and interlocking streams, and may well be styled the great source of waters, since it gives rise to streams reaching the Gulf of Mexico, the Gulf of St. Lawrence, and Hudson's Bay, at points from 2000 to 3000 miles distant from this common centre. From the same basin, in the wet seasons, the parting waters set out on their long journey to the frozen regions of the northern seas and the tropical shores of the Mexican Gulf, and the canoe may float from the one to the other. The Mississippi forms the most striking natural feature of the country. Its most remote source has recently been ascertained to be the little lake called Itasca by the Indians, and La Biche or Elk Lake by the French traders, 3160 miles from the Gulf of Mexico, 1029 miles from the Falls of St. Anthony, and about 1500 feet above the level of the sea. Flowing at first northwards and passing through several small lakes, it reaches the Falls of Peckagama, about 350 miles from its head; and from that point downward deviates but little from a general southerly course. Here it meets the first stratum of rock, and, descending over a fall of 20 feet, it leaves behind it the lakes and wet savannahs overgrown with wild rice, rushes, and other aquatic plants, and the cedar and tamarack swamps of its earlier course, and passing first through a region of forests and wooded islands, and then, below the mouth of the Corbeau, of dry prairies abounding with buffalo and elk, reaches the Falls of St. Anthony; at this point it descends about 80 feet in a distance of nine miles, and hence to its junction with the Missouri flows between lofty limestone bluffs from 100 to 400 feet high. Above the mouth of the St. Peter's it is much broken by rapids and abrupt falls, but below that point it has no considerable obstructions to the navigation in high stages of the water. The Rock River and the Desmoines rapids, however, impede the passage in low water.

The Corbeau or Crow Wing River, from the right, and Rum River, as the boatmen translate, rather freely, the Manitou or Spirit River of the natives, are the principal tributaries above the Falls of St. Anthony. The former has a course of 210 miles and is navigable nearly to its head in times of high-water. The latter has a course of about 350 miles, and rises near the St. Louis of Lake Superior. Just below the falls comes in the St. Peter's River, which has a course of 500 miles; about 15 miles below its source it expands into Big Stone Lake, from which there is a portage of three miles to Lake Travers, the head of Red River; but in times of high flood, canoes float from one lake to the other. The St. Peter's is much broken by rapids and falls, but when full may be navigated to its source by small boats, with the exception of two points that render portages necessary. The St. Croix and Chippewa are large streams coming in from the left, very much broken by rapids and falls, but allowing, with the aid of numerous portages, the passage of canoes. The Wisconsin is one of the greatest tributaries of the Upper Mississippi; rising in the vicinity of a cluster of lakes from which flow to different points the Ontanagon of Lake Superior, the Menomonies of Green Bay, and the Chippewa of the Mississippi, it runs southwards for about 360 miles, and then, turning suddenly to the west, reaches the Mississippi after a course of about 550 miles much broken throughout by numerous rapids; in a low stage of water its navigation is impeded by shoals and sand-banks, but in times of flood it may be ascended in boats of considerable burthen to the Great Bend, whence there is a portage of a mile and a half, over a flat meadow subject to inundation, into Fox River of Green Bay. The Rock River is also a large stream which rises in this territory, but it passes into Illinois.

On the right side several considerable tributaries also enter the Mississippi; the Penaca or Turkey River, the Upper Iowa, the Wabesapenaca, the Iowa, the Chacaguar, and the Desmoines are the principal. The Iowa rises in the table-land, from which descend some of the tributaries of the St. Peter's, and has a course of about 350 miles, affording steamboat navigation during a part of the year for about 100 miles; it is a rapid stream, somewhat obstructed by snags and sand-bars. The Desmoines rises in the Coteau des Prairies, and in the upper part of its course has a rapid and broken current; below this its course is remarkably crooked, but not much obstructed, although there are rapids. It may be navigated by steam-boats in a high stage of the water, about 200 miles.

The principal tributaries of the Missouri are the Sioux, and the Jacque or James River, which rise in the Coteau des Prairies, and flow southwards until they are swallowed up by the great stream, which here sweeps round to the east.

The Red River carries a portion of the waters of the Territory to Hudson's Bay. It is formed by the confluence of Swan River the outlet of Lake Travers, from the southwest, and Ottertail River, the outlet of the lake of the same name, from the northeast, the former communicating with the head of the St. Peter's, and the latter with that of the Corbeau. Its channel is winding, and it abounds in rapids; its length by the course of the stream is about 550 miles. The Assiniboin, its principal tributary, rises within one mile of the Missouri, above the mouth of the Little Missouri, and has a course of 700 or 800 miles; their united waters flow into Lake Winnipeg in the British Territory. The Lake of the Woods, which also sends its waters into Lake Winnipeg, receives those of a maze of lakes and rivers which have their rise within 20 miles of Lake Superior, by the common channel of Rainy Lake River; and the Grand Fork, coming from the immediate vicinity of the Mississippi, also carries its tribute to the same reservoir.

The tributaries of Lake Superior are generally small streams; the St. Louis, however, which flows into its extreme western head, called by the French Fond du Lac, is a considerable river though much broken by falls and rapids; it rises far to the north, near the chain of small border lakes, and has a course of about 300 miles. The Bois Brulé, the Mauvaise River, and the Montreal, have the same character. The principal tributary of Lake Michigan, beside the limitary stream of the Menomonies, is the Fox River, formed by two main branches, the Wolf River, rising between the Wisconsin and Green Bay, and the Fox River, rising further south near the great bend of the Wisconsin, with which it is connected by the short and easy portage before mentioned; the united waters, after passing through Lake Winnebago, flow into Green Bay.

The settled portion of the Territory, comprising the strip along the western bank of the Mississippi, and the tract between that river and Lake Michigan, on both sides of the Wisconsin, Fox, and Rock Rivers, with an area of about 26,000 square miles, is divided into five counties, viz.: Brown, on Fox River and Green Bay; Milwaukee, bordering on Lake Michigan, between Brown county and Illinois; Iowa, south of the Wisconsin and between the Rock River and the Mississippi; Crawford, north and west of the Wisconsin; and Dubuque and Desmoines, west of the Mississippi. In 1830, at which time it formed a part of Michigan Territory, it had a white population of 3635 souls; in 1835, the number of inhabitants was estimated to amount to 30,000.

This region comprises a portion of the richest lead deposits in the world; the product of the tract bordering on Illinois has been included in our account of the Illinois diggings. The Dubuque mines, on the west of the Mississippi, are also extensively wrought. There are some bogs, wild rice swamps, and cranberry marshes in the southeastern counties, as between Green Bay and Lake Michigan, and along the Four Lakes on a branch of Rock River, and there are also sandy tracts, particularly on the Lake; but a great proportion of the land is pronounced by the surveyors of a good quality, fertile and easy of cultivation. Between Rock River and Lake Michigan the surface is well wooded, but to the west of the former the land is chiefly prairie, and there is a deficiency of timber.

Green Bay affords a good harbour at the mouth of Fox River, and here have sprung up the thriving villages of Green Bay and Navarino, on the right bank of the river. Fort Howard, a United States military post, is on the opposite side. There is also a little village at the mouth of the Milwaukee, further south, bearing the name of the river whose banks it occupies.

Wisconsin city has been founded on Rock River, at the point where it issues from Kushkanong Lake, and being accessible to steam-boats, and having a great number of mill-seats in its vicinity, it promises to become a place of some importance. At the portage between the Fox and Wisconsin Rivers, stands Fort Winnebago, and at the mouth of the latter is Fort Crawford, with small garrisons. Steam-boats have ascended the Wisconsin to the portage, across which it is proposed to cut a canal. Prairie du Chien is a little village on a beautiful prairie, about five miles above the mouth of the Wisconsin; it occupies the site of an old Indian village, from whose chief, called Chien by the French traders, it takes its name. It has about 600 inhabitants.

On the west of the Mississippi the settlements are chiefly in the lead district in the north, and on the Desmoines in the south. The whole of this tract was ceded to the United States by the Sacs and Foxes in 1832, and is familiarly known as the Black Hawk Purchase. It consists mostly of prairie, but as it abounds with fine lakes and running waters, which are skirted by pretty extensive woodlands, and as there are scattered patches of forest distributed over the prairies, there is no deficiency of timber for building, fuel, and fencing. The soil is almost throughout rich and extremely easy of cultivation, and the district is bountifully supplied with navigable channels, and amply stored with mineral treasures, including lead, iron, and coal. Dubuque, finely situated on a gently sloping prairie on the right bank of the Mississippi, in the midst of a rich mineral and agricultural region, contains 10 or 12 smelting furnaces, and a white-lead factory, with a population of about 1200 souls. Steam-boats run up here and to Prairie du Chien through a great part of the year. A weekly newspaper is printed at Dubuque. In the southern part of the Purchase, the principal town is Burlington, with about 600 inhabitants. Fort Desmoines, on the right bank of the Mississippi, above the mouth of the river whose name it bears, is a United States military post.

Between the Wisconsin and Mississippi Rivers, to the north and west of the former, the country is owned and inhabited by 4500 Winnebagoes; and to the east on both sides of Wolf River are about 4000 Menomonies. There are also some bands of the New York Indians around Green Bay. In the southwest, between the Desmoines and Iowa Rivers, are the Sacs and Foxes, or Saukies and Ottogamies, about 6500 in number, and on the southwest of the former are the kindred tribe of the Ioways, who count 1200 souls. West of these on the east bank of the Missouri, are the united bands of emigrant Chippewas, Ottawas, and Pottawattamies, of about the same number. The rest of this vast expanse is occupied, or rather hunted by scattered bands of Sioux or Dahcotahs, and Chippewas; the latter roaming chiefly between the Red River and the Mississippi on one side, and Lake Superior on the other, and the former on the west of those rivers. The reader will find some account of these nations and their affinities in a former section (VI.) of this chapter.

Fort Snelling, a United States military station, a few miles below the Falls of St. Anthony, is the most remote northern post occupied by the troops of the confederacy. The American Fur Company have several factories or trading-houses in the Chippewa country, of which the general depôt is at Chegoimegon or Lapointe, on Lake Superior. The little settlement of Pembina, on Red River, planted by Lord Selkirk, chiefly with Scotch Highlanders, has been found to fall south of the frontier line of the United States and British America.

10. *Western or Indian Territory.*

The Western Territory is an extensive region, which has been set aside by the general government as a permanent home for the Indian races, whose removal beyond the limits of the States has for some years been going on. "Whatever difference of opinion may heretofore have existed, the policy of the Government, in regard to the future condition of these tribes of Indians, may now be regarded as definitively settled. To induce them to remove west of the Mississippi, to a territory set apart and dedicated to their use and government forever; to secure to them there a final home; to elevate their intellectual, moral, and civil condition, and to fit them for the enjoyment of the blessings of a free government, is that policy. And a further hope is now encouraged, that, whenever their advance in civilisation should warrant the measure, and they desire it, that they may be admitted as a State to become a member of the Union." (*Report of Committee of Congress on Indian Affairs, May* 20, 1834.) "There they may be secured in governments of their own choice, subject to no other control from the United States than such as may be necessary to preserve peace on the frontier, and between the several tribes. There the benevolent may endeavour to teach them the arts of civilisation, and by promoting union and harmony among them, to raise up an interesting commonwealth, destined to perpetuate the race, and to attest the humanity and justice of this government." (*President's Message*, 1829.)

This region, which has been called in official papers the Western Territory, extends from Red River, on the south, to the Running Water River and the North Fork of the Platte on the north, lying between the western boundary line of Arkansas and Missouri on the east, and the Mexican territories on the west. Stretching from 33° 30′ to about 42° 40′ N. lat., and from 94° 20′ to 107° W. lon., it is about 600 miles wide in the eastern, and half that width in the western part, with a length in the north of about 600, and in the south of about 300 miles. The area is about 200,000 square miles. The northeastern boundary is formed by the Missouri, and the northwestern by the Rocky Mountains.

In the southeastern corner, between the Arkansas and Red River, the country is mountainous, being traversed by the Ozark range. Beyond this it spreads out into wide expanses of a slightly undulating surface, or into extensive plains, over whose dead level the eye wanders to the verge of vision. In the western part of the northern belt, successive groups of isolated table-lands, and regular ranges of hills, mark the approach to the Rocky Mountains. The base of the mountains is, according to Long's estimate, about 3000 feet above the sea, and James's Peak was determined by that traveller to have an elevation of 11,500 feet; further north, near the source of the Platte River, some points appear to attain a still greater height.

This region is traversed by several large rivers, all of which rise in the Rocky Mountains, and reach the Mississippi and Missouri after having received, during their long courses, numerous considerable tributary streams. They have the common characters of rivers of a desert, flowing through tracts of sand, with wide but shallow beds, obstructed throughout by sand-bars and banks, sometimes so sparingly furnished with water as to form merely a succession of stagnant pools, and sometimes even presenting dry channels. The Platte, although it has a course of about 1000 miles, and is often several miles in width, is so shoal that it may be forded at almost any point in moderate stages of water, and can scarcely be said to be navigable for any length of time. Its banks are but little elevated above high water, but the channel is so wide that they are rarely inundated. In the lower part of its course the banks and numerous islands are covered with a growth of cotton-wood and willow, which, however, soon disappears, and for several hundred miles scarcely a tree or a shrub is to be seen, until, on approaching the mountains, they are again lined with straggling groups of stunted trees. The Konzas or Kanzas is also a large stream, and it receives considerable tributaries, called the Republican Fork, Solomon's Fork, Smoky Hill Fork, and Grand Saline Fork; in high stages of water it may be navigated for a distance of nearly 200 miles.

The Arkansas is, however, the principal river of this region. Rising in the Rocky Mountains, it forms for several hundred miles the boundary line of the Western Territory, which it then enters and traverses, passing into the State of Arkansas. Although it flows within or along the borders of the Territory for a distance of about 1500 miles, it affords few navigable facilities; shallow, and in some parts entirely disappearing, even its floods are so uncertain, and its rise and fall are so rapid as to render it almost useless for navigation. Steamboats ascend, but with much difficulty, to Fort Gibson. It flows, like the Platte, chiefly through sandy plains and prairies. From the north it receives the Verdigris, Neosho, and Illinois Rivers, but its largest tributaries enter it on the right; the Negracka, Nesuketonga or Salt Fork, and the Canadian are the principal. The last mentioned rises in the Mexican Mountains, and receives two large streams, called the North Fork and the South Fork, from the same region; its valley and bed are broad, and it has a course of about 1000 miles, but its channel is sometimes quite dry, and everywhere shallow. The Red River, which forms the southern boundary of the Territory, is better supplied with water, and affords navigation for some distance.

The eastern part of the Territory, forming a strip of about 200 miles in breadth, is in general productive and well adapted to agricultural operations. It is mostly prairie, skirted here and there, chiefly along the river valleys, with lines of woodland, and there are extensive fertile bottoms on the lower parts of the rivers. Some tracts are too rugged and sterile for cultivation, but these are of more limited extent. "A considerable portion of the land is as good as is found in any of the Western States. This is the character of the bottom lands on the principal rivers, which are generally covered with fine timber, and also of much of the prairie lands adjoining the timber on the several water courses, which intersect the country in every direction. There is another very considerable portion of woodland wholly unfit for cultivation; such as the mountains and flint hills that are seen interspersed throughout the country. These, however, add, it is believed, much to the salubrity of the climate, and will long afford game for the lovers of the chase, and a good range for the stock of the settlers at certain seasons of the year. On the Kiamesha Mountains, there is winter grass that will sustain the stock in that part of the country in winter, if the fires are kept out of the woods. The same may also be the case in other parts of the country. There are also vast prairies, that extend through the country in various directions, and of all the diversity of soil, from the best alluvial and good upland, to the gravelly ridges and barren sand hills. These prairies are intersected by water-courses skirted with wood, and as they are generally a limestone soil, springs of water have been found, and others may yet be discovered. The country will produce abundantly all the varieties of grain, vegetables, and agricultural products, which are raised in the States of the same latitude east of the Mississippi. It is also admirably adapted to the raising of stock of every description. South of the Kanzas River there is no absolute necessity to provide for them in winter, as they live in the range winter and summer. Sheep, particularly, do very well, and they shear them here twice a year." (*Report of the Commissioners of Indian Affairs, West*, 1834.)

But as we ascend the streams of this region the features of the country change; the soil is an arid, sterile sand, destitute of trees or even shrubs, and timber disappears even from the river valleys. Vast tracts are covered only with yuccas, cactuses, and cucurbitaceous plants, and are either destitute of water, or present to the exhausted and wayworn traveller a brackish and bitter draft; in many places the surface is whitened by a nitrous or saline efflorescence, and all wears the aspect of desolation. This region has been called the American or Arkansas Desert, and it extends along the foot of the Rocky Mountains, with a breadth of about 500 miles, far beyond the limits of the Western Territory. It is probably wholly unfit for the abode of civilised man, and entirely unsusceptible of cultivation; yet it does not exhibit the naked aspect of the African deserts, and it affords pasture for troops of wild animals. It is rather frequented, than inhabited, by wandering bands of savages, who roam from place to place in pursuit of game.

The former or eastern section is the only portion which is occupied by the emigrant and indigenous tribes, whom the Federal Government are aiming to fix in permanent abodes, and to educate in the arts of peace. The following table exhibits the names and numbers of the tribes, as given in the Secretary at War's Report relative to the Number and Situation of the Indians on the Frontiers of the United States, March, 1836. The numbers differ somewhat from the estimates of Mr. M'Coy in the Annual Register of Indian Affairs (January, 1836). The amount of land occupied by each has been added from M'Coy's Register, and the before cited Report of the Commissioners on Indian Affairs, West.

Indigenous Tribes.

Tribe.	Population.	Land. Sq. M.
Pawnees	10,000	25,000
Poncas or Puncahs	800	
Omaha	1,400	?
Otoes and Missouries	1,600	2,500
Kansas or Kauzaus	1,471	4,200
Quapaws	450	150
Osages	5,510	11,820

Emigrant Tribes.

Tribe.	Population.	Land. Sq. M.
Choctaws	15,000	23,500
Creeks	3,600	20,500
Cherokees	6,000*	22,000
Senecas	251†	200
Senecas and Shawanoes	211	
Weas	222	250
Piankeshaws	162	
Peorias and Kaskaskias	132	150
Ottawas	200*	562
Shawanees	1,250*	2,500‡
Delawares	826	3,450
Kickapoos	588	1,200
Pottawatamies	441	?

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* M'Coy states the Ottawas to be 80, the Shawanees 764, and the Cherokees 4000.

† According to M'Coy, this number includes 50 Mohawks.

‡ The Commissioners say 10,000, but it is evidently a mistake.

The Choctaws possess the tract lying between Arkansas and New Mexico, and bounded on the south by the Red River, and on the north by the Arkansas. They occupy at present only the eastern part, the western section being frequented by bands of the Camanches, Kiaways, and Toyash, variously called by different writers, Pawnee Picts, Peets, or Piquas, who belong to a kindred stock, and reside partly on the Mexican and partly on the American side of the Red River. The Choctaws have adopted to a considerable extent the European costume; they have good houses and well fenced fields, they raise Indian-corn and cotton pretty extensively, and own a large number of horses, black cattle, sheep and hogs, wagons, ploughs, looms, and spinning-wheels. There are also among them several native mechanics, and three merchants with capitals of from 2000 to 8000 dollars. Some of them are engaged in the manufacture of salt from the brine springs, which abound in their district, and two grist and saw mills are owned and carried on by native Choctaws.

They have a written constitution, and have introduced trial by jury; the government is administered by three principal chiefs, elected for four years, and a Legislative Council, consisting of 30 counsellors, chosen annually by the people. The introduction of ardent spirits is forbidden by their laws, and intemperance is rare among them. The American Board of Foreign Missions have six stations and thirteen missionaries, and there are also two Baptist and one Methodist mission here. Fort Towson is a United States military post on the Red River.

The Creek country stretches west, from the Neosho and a line drawn from its mouth to that of the North fork of the Canadian, to the Mexican frontier, and lies between the Canadian River on the south, and the Cherokee frontier in about 36° lat. on the north. The character and condition of the people resemble those of the Choctaws; their land is productive, their fields carefully enclosed with rail fences, their houses comfortable and decently furnished, and, beside raising more Indian corn than is necessary for their own consumption, they cultivate wheat, rice, and the common culinary vegetables. Their government is administered by a General Council of the nation, in accordance with the provisions of a written constitution; and the execution of the laws, under the direction of the Council and judges, is entrusted to executive officers, called Light-Horsemen.

There are two stations of the Baptist Missionary Convention with six missionaries, one station of the Board of Foreign Missions with two missionaries, and a Methodist Mission, among the Creeks. Several of the missionaries are natives.

The Cherokees own the country lying north and east of the Creek country, between 36° and 36° 50′ N. lat.; the tract lying between the Creeks and Arkansas extends, however, south to the Askansas. They all reside in the eastern part about the Illinois, Neosho, and Verdigris rivers. Salt is made at several of the salt-springs by the natives, and according to M'Coy there are in the nation 3000 horses, 11,000 horned cattle, 15,500 hogs, 600 sheep, 110 wagons, several hundred spinning-wheels, 100 looms, seven saw and grist-mills, and one or several ploughs to each farm. Some of the native traders have capitals of from 5000 to 15,000 dollars.

There are three principal chiefs at the head of the government, and the legislature, consisting of two houses, meets annually. Each district has also two Judges and two Light-Horsemen or Sheriffs. In respect to their houses, furniture, dress, &c., they resemble the two nations already described.

Fort Gibson, on the Arkansas, is in the Cherokee country; and there are here three missions of the Board of Foreign Missions, with 18 missionaries and a printing-press, a Methodist mission, and a Baptist mission.

The Osages or Wososhes are indigenous natives, and a portion of them have yet made no improvement in the arts of civilisation; some of them, however, particularly a band on the Neosho, have tolerable houses, own some cattle and hogs, and have begun to use the plough. The remainder live in portable lodges, formed by inserting small poles in the ground, and bending them over so as to meet at top, where an aperture is left for the escape of the smoke, the sides being covered with flags, or buffalo or elk skins. Their tract extends, with a width of 50 miles, from the Neosho to the Mexican frontier, along the northern boundary of the Cherokees. They are represented to be of a peaceable, gentle character, but their precarious mode of subsistence often reduces them to a state of extreme misery.

Lying between the Neosho and Missouri State, are the tracts occupied by the Quapaws, the united band of Senecas and Shawanees, and the band of Senecas and Mohawks. The first mentioned removed from Arkansas, and are more advanced in civilisation than their kindred, the Osages. The other bands resemble the more civilised tribes in their condition, and habits, but they have no missionaries among them. They have, however, a translation into the Mohawk of several books of the New Testament, and of the book of Common Prayer, which many of them are able to read, and one of the natives officiates at their meetings for public worship.

On the head-waters of the Osage River are fixed the small bands of Piankeshaws, Weas, Peorias, Kaskaskias, and Ottawas; they are of kindred origin, and have made considerable progress in civilisation. There are several missionary stations among these tribes.

The Shawanees own a tract lying between the head of the Osage and the lower part of the Kanzas River, and extending westwards from the Missouri frontier 140 miles, but they occupy only the north-eastern section of this tract, on the Kanzas River. They are among the most improved of the Indian tribes, having generally good houses, well-fenced fields, and a sufficient number of live stock. The Methodists and Baptists have missions among them, and at the Shawanee Station, under the care of the latter there is a printing-press, from which have been issued school-books and collections of sacred poetry in several Indian languages; a monthly journal is also printed here in the Shawanee language, and the valuable Annual Register of Mr. M'Coy is also from this press.

North of the Kanzas and southwest of the Missouri is the Delaware country, which extends westward with a strip only 10 miles wide, 200 miles from Missouri. The condition of the Delawares resembles that of the Shawanees, and there are among them a Methodist missionary station, with two missionaries, and a Baptist mission.

The Kanzas, Konzas, or Kauzaus occupy a rectangular tract between the westerly sections of the Shawanee and Delaware lands; they are an indigenous tribe, nearly allied to the Osages, and are poor and wretched; their lodges are partly like those of the Osages, and in part made of earth; in these last the roof is supported by wooden props within.

The Kickapoo tract lies on the Missouri, to the north of the Delaware country. They resemble the Peorias in their condition. There is a Methodist missionary station in their country. One of the Kickapoo chiefs has founded a singular religious society, which has about 400 adherents; he lays claim to divine revelations, and inculcates abstinence from ardent spirits and flagellation for sin. The religious ceremonies consist of a series of prayers, chanted by the whole assembly, and are solemnised four times a week. Fort Leavenworth is in the Kickapoo territory. Most of the Pottawatamies have fixed themselves in this tract, but the lands reserved for them are on the other side of the Missouri.

The Otoes, between the Platte and the Little Nemahaw, the Omahas, between the Platte and the Missouri, the Puncas, further northwest, and the Pawnees, on the northern side of the Platte further west, are indigenous tribes, who retain their original barbarous habits of life with little or no change.

In the desert regions further west, and along the base of the mountains, are roving tribes of Arickaras, Shiennes, Blackfeet, Gros Ventres, and Arepahas, who pursue the trail of the buffalo, and have had little intercourse with the whites. This region was traversed by a body of United States dragoons in the summer of 1835, and the before hostile tribes were induced to enter into a treaty of mutual peace and friendship. The great caravan road from Missouri to Santa Fe crosses the eastern part of this section, and there is a traders' fort near the head of the Arkansas.

11. *Western District.*

This vast expanse, spreading over a space of not less than 300,000 square miles, has been but partially explored, and is imperfectly known. The Missouri is its most remarkable natural feature; and its numerous branches drain the whole region. The source of this great stream was reached by Captain Lewis and his party on the 12th of August, 1805, about 3100 miles above its junction with the Mississippi, in about latitude 43° 30'. "They had now," says the journalist of the expedition, "reached the hidden sources of that river which had never yet been seen by civilised man, and as they sat down by the brink of that little rivulet, which yielded its distant and modest tribute to the parent ocean, they felt themselves rewarded for all their labours and all their difficulties." Within three quarters of a mile from this interesting spot the party tasted the waters of the Columbia River. After having received several considerable tributaries, the Missouri breaks forth from the mountains, through a lofty barrier of rocks, which rise perpendicularly to the height of 1200 feet above the water. "Nothing can be imagined more tremendous than the frowning darkness of these rocks, which project over the river and menace us with destruction. The river, of 150 yards in width, seems to have forced its channel down this solid mass, but so reluctantly has it given way, that during the whole distance the water is very deep at the edges, and for the first three miles there is not a spot, except one of a few yards, in which a man could stand between the water and the towering perpendicular of the mountain; the convulsion of the passage must have been terrible, since at its outlet there are vast columns of rock torn from the mountain, which are strewed on both sides of the river, the trophies, as it were, of the victory." The length of this chasm is five miles. Some distance below this point, occurs a succession of rapids and falls, where the river descends 350 feet in a distance of about 15 miles; thence it continues its course 2575 miles to the Mississippi. Its channel is extremely crooked, and at the Great Bend it makes a circuit of 30 miles, in advancing only 2000 yards in a direct distance. It is throughout full of islands, sand-banks, bars, and shallows, and is constantly washing away its banks in one place and forming new ones in another.

The Yellowstone, its greatest tributary in the upper part of its course, rises far to the south, but its sources have only been visited by hunters and traders. Captain Clarke, who navigated it downward from a point above 800 miles from its mouth, found its channel little obstructed throughout that distance by sand-bars or rocks; the banks are, according to him, low, but bold and not liable to be overflowed, except in the neighbourhood of the mountains. The Little Missouri, the Shienne, the White River, the Quicoure or Running River, and the Elkhorn are the principal tributaries between the Yellowstone and the Platte. They appear to be all characterised by the same traits, being rapid, shallow streams, much impeded by sand-banks, and liable to sudden rises and falls. From the north come in Maria's River, Milk River, and White Earth River, all considerable streams.

The greater portion of this region, as far as it is known to us, appears to consist of prairies, bordered and intersected by patches of woodland chiefly in the river valleys; but in some parts even these are destitute of trees, and nothing but wide, grassy expanses meet the eye, In approaching the mountains, the forest again reappears. Wandering tribes of Indians, with no settled habitations, follow the migrations of the game over these tracts, and it is not easy to determine the range of the different bands. Several tribes which were found by Lewis and Clarke on the Missouri, were met by the dragoons under Colonel Dodge in 1835, along and south of the Platte River. The Tetons, Yanktons, and other Sioux tribes appear, however, to be masters of the lower part of the river, while the Mandans, Minnetarees, Blackfeet, &c., occupy the upper portions. Bison, elk, and several other species of deer, the Rocky Mountain sheep and goat, several species of wolves, the black bear, and the more ferocious and formidable grisly bear, beaver and other fur-bearing animals, &c., occur in different parts of the country.